

66222-54

06/21/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

JUN 21 2012

Kristin Knox
Makhteshim Agan of North America, Inc
3120 Highwoods Blvd , Suite 100
Raleigh, NC 27604

Subject Notification per PR Notice 98-10 – Add California to Peppermint Application
Diuron 4L
EPA Reg No 66222-54
Application Dated – June 14, 2012

Dear Ms Knox

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the subject product

The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10 The label submitted with the application has been date-stamped "Notification" and will be placed in our records

If you have any questions regarding this letter, please contact Maggie Rudick at (703) 347-0257 or rudick_maggie@epa.gov

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis, Product Manager 25
Herbicide Branch
Registration Division (7505P)



United States
Environmental Protection Agency
Washington DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1 Company/Product Number 66222 54	2 EPA Product Manager Kable Bo Davis	3 Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4 Company/Product (Name) Diuron 4L	PM# 25	
5 Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America Inc 3120 Highwoods Blvd Suite 100 Raleigh NC 27604 <input checked="" 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 EPA Reg No _____ Product Name _____	

Section - II

Amendment Explain below
 Resubmission in response to Agency letter dated _____
 Notification Explain below

Final printed labels in response to Agency letter dated _____
 "Me Too" Application
 Other Explain below

NOTIFICATION
JUN 21 2012

Explanation Use additional page(s) if necessary (For section I and Section II)

Notification to add California to peppermint application This notification is consistent with the provisions of PR Notice 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 false statements to EPA I further understand that if this notification is not consistent with the terms of PR Notice 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 of FIFRA

Section - III

1 Material This Product Will Be Packaged In				2 Type of Container	
Child Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt	No per container	If Yes Package wgt	No per container
3 Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4 Size(s) Retail Container		5 Location of Label Directions <input type="checkbox"/>	
6 Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph Paper glued <input type="checkbox"/> 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 Kelly Wall Powell	Title Regulatory Specialist	Telephone No (Include Area Code) 919 256 9351
Certification 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 Product Registration Manager	
4 Typed Name Kristen B Knox	5 Date June 14, 2012	

June 14, 2012

Document Processing Desk (NOTIF)
Registration Division (7504P)
Office of Pesticide Programs
U S EPA, One Potomac Yard
2777 S Crystal Drive, Room S 4900
Arlington, VA 22202

ATTN K Bo Davis, PM Team 25
(703) 306 0415

RE Diuron 4L, EPA Reg No 66222 54
Notification to add California to peppermint application

Dear Mr Davis

We are notifying the Agency that Makhteshim Agan of North America, Inc is adding California to the list of States regarding peppermint application We have updated our company address on the label as well

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulation 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula for this product I understand that it is a violation of 18 U.S.C. Sec 1001 to willfully make any false statement to the EPA I further understand that if this notification is not consistent with the terms of PR Notice 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 of FIFRA

In support of this submission, the following documents are attached

**NOTIFICATION
JUN 21 2012**

- Application for Pesticide Registration (EPA Form 8570 1),
- One annotated copy of the printed label, and
- Two clean copies of the printed label

If you need any further information to process this submission, please contact me at phone 919 256-9337 or e-mail kknnox@manainc.com

Best regards,

Kristen B Knox
Product Registration Manager

www.manainc.com

P (919) 256-9300
F (919) 256-9306

3120 Highwoods Blvd
Suite 100
Raleigh, NC 27604



4/29

GROUP 7 HERBICIDE

DIURON 4L

(Alternate Brand Names Cleanshot 4L Determine 4L Direx 4L Diuron IVM-L Diuweed 4L Parrot 4L Sekor 4L Sekor 4L Herbicide SoLong 4L SoLong 4L Herbicide SuperDi 4L SuperDi 4L Herbicide)

LIQUID FLOWABLE HERBICIDE

FOR CONTROL OF MANY ANNUAL AND PERENNIAL GRASSES AND HERBACEOUS WEEDS

ACTIVE INGREDIENT

Diuron 3-(3,4-dichlorophenyl) 1,1-dimethylurea

% BY WT

40.7%

OTHER INGREDIENTS

59.3%

TOTAL 100.0%

NOTIFICATION
JUN 21 2012

Contains 4.0 Pounds of Diuron per Gallon

Manufactured for

Makhteshim Agan of North America Inc
3120 Highwoods Blvd Suite 100
Raleigh NC 27604

EPA Reg No 66222-54

EPA Est No [REDACTED]

NET CONTENTS _____ GALLONS

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

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 a poison control center or doctor
- Do not give anything by mouth to an unconscious person

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1 877 250-9291 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical resistant to this product are polyethylene and polyvinyl chloride. If you want more options follow the instructions for Category A on an EPA chemical resistance category selection chart.

All pilots, flaggers, and groundboom applicators must wear

- Long-sleeved shirt and long pants
- Shoes plus socks

All mixers, loaders, other applicators, and other handlers must wear

- Long-sleeved shirt and long pants

Diuron 4L, EPA #66222-54

Notification to add CA to peppermint application
ANNOTATED Copy MASTER LABEL June 14, 2012

- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
- A NIOSH-approved dust/mist filtering respirator with any N R P or HE filter or a NIOSH-approved dust/mist filtering respirator with approval number prefix TC-21C
- Chemical-resistant apron when mixing loading or cleaning equipment or spills

See engineering controls for additional requirements

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 CONTROLS

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

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170 240 (d)(6)]

Flagger supporting aerial applications must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR 170 240(d)(5)] for dermal protection In addition flaggers must wear long sleeved shirt long pants shoes and socks

USER SAFETY RECOMMENDATIONS

Users should

- Wash hands thoroughly with soap and water after handling and 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

ENVIRONMENTAL HAZARDS

Do not apply directly to water 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 washwaters or rinsate Apply this product only 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

[Note to label editor the following statement appears on product subset labeling pertaining to noncrop use only

For use on plants in noncrop and nontimber areas only Not for use on crops timber or other plants being grown for sale or other commercial use or for commercial seed production or for research purposes]

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 intervals 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 12 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
- Shoes plus socks
- Chemical resistant gloves made of any waterproof material

NONAGRICULTURAL 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
 Noncrop weed control is not within the scope of the Worker Protection Standard Do not enter treated areas or allow others to enter until sprays have dried

IMPORTANT Read the entire **DIRECTIONS FOR USE** and the **LIMITATION OF WARRANTY AND LIABILITY** before using this product If terms are not acceptable return the unopened product container to the place of purchase at once Diuron 4L herbicide must be used only in accordance with directions on this label or in separate published directions Makhteshim Agan of North America Inc will not be responsible for losses or damages resulting from use of this product in any manner not specifically directed by Makhteshim Agan of North America Inc User assumes all risk associated with non-directed use

PRODUCT INFORMATION

Use of this product in certain portions of California Oregon and Washington is subject to the January 22 2004 Order for injunctive relief in Washington Toxics Coalition, et al v EP C01-0132C (W DWA) For further information please refer to [http //www.epa.gov/espp/wtc/](http://www.epa.gov/espp/wtc/)

Diuron 4L is a liquid flowable to be mixed with water and applied as a spray for selective control of weeds in certain crops and for nonselective weed control on noncropland areas It is noncorrosive to equipment nonflammable and nonvolatile

Apply Diuron 4L to soil prior to emergence of weeds to control susceptible weed seedlings for an extended period of time The degree of control and duration of effect will vary with the amount of chemical applied soil texture rainfall and other conditions Soils high in clay or organic matter require higher dosages than soils low in clay or organic matter for equivalent herbicide performance Moisture is required to activate the herbicide Best results occur if rainfall (or sprinkler irrigation) occurs within 2 weeks of application

Diuron 4L applied before emergence of crop and weeds is an effective procedure because susceptible weeds are controlled in an early vulnerable seedling stage before they compete with the crop With favorable moisture conditions Diuron 4L continues to control weeds for some time as the crop becomes better able to compete Should weed seedlings begin to break through the preemergence treatment in significant numbers secondary weed control procedures should be implemented these include cultivation and postemergence herbicide application

Diuron 4L may also be used to control emerged weeds Results vary with rate applied and environmental conditions Best results are obtained on succulent weeds growing under conditions of high humidity and temperature of 70°F or higher Addition of a surfactant to the spray (where directed) increases contact effects of Diuron 4L

Diuron 4L may be used as a directed postemergence application Contact of crop foliage and/or fruit with spray or mist must be avoided on the following crops artichoke corn (field) cotton sorghum (grain) sugarcane and established plantings of apples bananas plantains blueberries caneberrries gooseberries citrus grapes macadamia nuts olives papayas peaches pears pecans walnuts and certain tree plantings as injury may occur

Under specified conditions (see **CROP USES**) Diuron 4L without surfactant may be applied over the top of alfalfa (established dormant or semi dormant) asparagus (established) birdsfoot trefoil (established dormant) grass seed crops (established) oats red clover (established dormant) sugarcane wheat and pineapple

Weed species vary in susceptibility to Diuron 4L and they may be more difficult to control when under stress Combinations of Diuron 4L with other herbicides (as registered) increase the number of weed species controlled Consult labels of the companion product(s) for this and other information Observe all precautions and limitations on labeling of all products used in mixtures

Since the effect of Diuron 4L varies with soils uniformity of application and environmental conditions it is suggested that growers limit their first use to small areas

IMPORTANT USE PRECAUTIONS

Injury to or loss of desirable trees or other plants may result from failure to observe the following Draining or flushing equipment on or near desirable trees or other plants or on areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots may injure these plants Do not use on home plantings of trees shrubs or herbaceous plants or lawns walks driveways tennis courts or similar areas Trees or other desirable plants whose roots extend into a treated crop use area may be injured Thoroughly clean all traces of Diuron 4L from application equipment immediately after use Flush tank pumps hoses and boom with several changes of water after removing nozzle tips and screens (clean parts separately)

RESISTANCE MANAGEMENT

Biotypes of certain weeds listed on this label are resistant to Diuron 4L and other herbicides with the same mode of action even at exaggerated application rates Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic compositions the mode of action of an herbicide is the chemical interaction that interrupts a biological process necessary for plant growth and development

If weed control is unsatisfactory it may be necessary to retreat problem areas using a product with a different mode of action

If resistant weed biotypes are suspected or known to be present use a combination of tillage retreatment tank-mix partners and/or sequential herbicide applications with Diuron 4L to help control these biotypes or use a planned herbicide rotation program where other herbicides having different modes of action are used

SPRAY DRIFT MANAGEMENT

Requirements for reducing spray drift for diuron ground and aerial applications

Use best practices to avoid drift to all other crops and nontarget areas Do not apply when conditions favor drift from target areas **The interaction of many equipment and weather related factors determine the potential for spray drift Avoiding spray drift at the application site is the responsibility of the applicator** The applicator must follow the most restrictive precautions to avoid drift including those found in this labeling as well as applicable state and local regulations and ordinances A drift control agent may reduce drift however it may also decrease weed control

- Make aerial or ground applications only when the wind speed is less than or equal to 10 miles per hour
- Do not make aerial or ground applications into temperature inversions
- Apply with medium or coarser spray (according to ASABE standard S572 1) for standard nozzles
- **Additional requirements for ground applications**
When applying to crops apply with nozzle height no more than 2 feet above the ground or crop canopy
- **Additional requirements for aerial applications**
The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices The boom length must not exceed 75% of the wingspan or 90% of rotor blade diameter Use upwind swath displacement When applying to crops do not release spray at a height greater than 6 to 10 feet above the ground or crop canopy Do not apply by air if sensitive nontarget crops are within 100 feet of

the application site Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees

Importance of 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 (General Techniques)

- Volume-Use high flow rate nozzles to apply the highest practical spray volume Nozzles with higher rated flows produce larger droplets
- Pressure-Use the lower spray pressures recommended for the nozzle Higher pressure reduces droplet size and does not improve canopy penetration 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 backwards parallel to the airstream will produce larger droplets than other orientations Significant deflection from the 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 larger droplets than other nozzle types
- Boom Length-For some use patterns reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width
- Application-Applications should not be made 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 cross-wind 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 connected cloud (under low wind conditions) indicates an inversion while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing

Sensitive Areas

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

CHEMIGATION STATEMENT

Refer to the section of this labeling entitled **APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION** for use directions for chemigation. Do not apply this product through any irrigation system unless the instructions for chemigation are followed.

APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION

Apply this product only through sprinkler (including center pivot, lateral move, end tow, side (wheel), roll, traveler, big gun, solid set, or hand move) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person shall shut the system down and make necessary adjustments should the need arise.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

If the chemigation system is connected to a public water supply, the following conditions must also be met:

- Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional reduced-pressure zone backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Upon completion of herbicide application, remove scale, pesticide residues, and other foreign matter from the supply tank and entire injector system. Flush thoroughly with clean water.

SPRINKLER CHEMIGATION

For sprinkler irrigation, meter Diuron 4L at a continuous uniform rate during the entire irrigation period. Continuous agitation of the pesticide supply tank for the duration of the application period is recommended.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

- The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump
- The pesticide injection pipeline must also contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected
- Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock
- Do not apply when wind speed favors drift beyond the area intended for treatment

SELECTIVE USE IN CROPS

PREEMERGENCE USE (Germinating Weeds) Diuron 4L at labeled rates controls annual weeds and grasses such as

0.6 to 0.8 quart/A	1.2 to 1.6 quarts/A	1.6 to 4.8 quarts/A
Barnyardgrass (Watergrass)	Annual Bluegrass	Knawel
Crabgrass	Annual Sweet Vernalgrass	Pennycress
Lambsquarters	Annual Groundcherry	Rattail Fescue
Pigweed	Annual Morningglory	Red Sprangletop
Purslane		Shepherdspurse
Ragweed	Chickweed	Tansymustard
	Corn Spurry	Velvetgrass
	Dogfennel	Wild Buckwheat
	Fiddleneck (Amsinckia)	Wild Lettuce
	Foxtail	Wild Mustard
	Gromwell	
		Corn Speedwell
		Dayflower
		Flora's Paintbrush
		Hawksbeard
		Horseweed
		Johnsongrass (Seedling)
		Kochia
		Kyllinger (Kyllinga)
		Marigold
		Mexican Clover
		Orchardgrass
		Pepperglass
		Pineappleweed
		Pokeweed
		Rabbit Tobacco
		Rice Grass
		Sandbur
		Spanishneedles
		Velvetleaf (Buttonweed)
		Wild Radish

Partial Control
0.8 quart/A

- Cocklebur
- Morningglory Annual
- Prickly Sida (Teaweed)
- Sesbania
- Sicklepod

3.2 quarts/A

- Horsenettle
- Quackgrass

6.4 to 8.0 quarts/A

- Guineagrass
- Maidencane
- Pangolagrass

APPLICATION DIRECTIONS

AERIAL APPLICATION For alfalfa barley (winter) cotton (preplant or preemergence only) grass seed crops (PNW only) sugarcane wheat (winter) and rights-of-way application may be made by aircraft in a minimum of 3 gallons of water per acre unless otherwise noted. Avoid overlapping of spray swath and avoid application under conditions where excessive drift may occur. Where land is bedded make application parallel to rows. Aerial application is prohibited on all other sites not listed above.

GROUND APPLICATION Use a boom power sprayer properly calibrated to a constant speed and rate of delivery. Openings in screens should be 50 mesh or larger. Continuous agitation in the spray tank is required to keep the material in suspension. Agitate by mechanical or hydraulic means. If by-pass or return line is used it should terminate at bottom of tank. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping or injury to crop may result.

PREEMERGENCE For preemergence application use sufficient spray volume and pressure to uniformly distribute the spray solution over treated soil. Preemergence weed control will be reduced on high organic matter soils such as peat or muck.

POSTEMERGENCE For postemergence application use sufficient spray volume and pressure for thorough coverage of weed foliage. For selective applications and applications near sensitive crops use low spray pressure to keep spray drift to a minimum. Diuron 4L at labeled rates controls seedling annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, pigweed, and purslane. Addition of a surfactant to the spray (where directed) increases contact effects of Diuron 4L. Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures 70°F or higher.

SPRAY PREPARATION Mix specified amount of Diuron 4L into necessary volume of water. Where use of surfactant is directed dilute with ten parts of water and add as the last ingredient to the nearly full spray tank.

TANK MIXTURES Diuron 4L may be tank mixed with other herbicides and/or adjuvants registered for crop or noncrop use in this label. Refer to the label of the tank mix product(s) for any additional use instructions or restrictions.

REPLANTING Unless otherwise directed do not replant treated areas to any crop within 2 years after last application as injury to subsequent crops may result. **Note** for crops grown in the arid west reductions in normal irrigation practices for the crop in production or a summer fallow period without supplemental irrigation may require the crop rotation intervals to be extended.

When such conditions occur a field bioassay should be completed prior to planting any desired crop. A successful bioassay means growing to maturity a test strip of the crops intended for production. The test crop strip should cross the entire field including knolls, low areas, and areas where any berms were located. The results of this bioassay may require the rotation intervals to be extended.

RATES All rates of Diuron 4L are expressed as broadcast rates. Where band applications are specified use proportionately less. For example use 1/3 of the broadcast rate when treating a 14-inch band where row spacing is 42 inches. Where a range of dosages is given, use the lower rate on coarse-textured soils low in clay or organic matter and the higher rate on the fine textured soils high in clay or organic matter. For postemergence application use the lower rate on smaller weeds and the higher rate on the larger weeds.

SOIL LIMITATIONS Crop injury may result from failure to observe the following. Unless otherwise directed do not use on sand, loamy sand, gravelly soils, or exposed subsoils, nor on pecans where organic matter is less than 0.5% nor on alfalfa, apples, artichokes, barley (winter), citrus, cotton, grapes, oats, olives, papayas, peaches, pears, sorghum, sugarcane, walnuts, and winter wheat where organic matter is less than 1% nor on blueberries, birdsfoot, trefoil, caneberries, gooseberries, macadamia nuts, and peppermint where organic matter is less than 2%.

FIELD CROPS (see SOIL LIMITATIONS) A good seedbed must be prepared before preemergence use of Diuron 4L as crop injury may result if application is made to ground which is cloddy or compacted resulting in improperly planted seed. Plant seed to depth specified. Unless otherwise directed the surface of the soil should not be cultivated or disturbed after application of Diuron 4L and before emergence of the crop as weed control may be reduced and crop injury may result. However if moisture is insufficient to activate the herbicide a shallow cultivation (rotary hoe preferred) should be made after emergence of crops while weeds are small enough to be controlled by mechanical means.

FRUIT AND NUT CROPS (see SOIL LIMITATIONS) Unless otherwise directed make a single application per year as a directed spray avoiding contact of foliage and fruit with spray or drift. Do not graze livestock in treated orchards or groves.

CROP USES

ALFALFA

Treat only stands established for 1 year or more. Do not apply to seedling alfalfa nor to alfalfa/grass mixtures. Do not apply to alfalfa under stress from disease, insect damage, shallow root penetration (such as on shallow

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hard pans) alkali spots nor to flooded fields as crop injury may result Do not spray on snow-covered or frozen ground Do not apply to alfalfa more than once per year Do not exceed 2 4 quarts per acre per year

Arizona, Nevada Use 1 2 to 2 4 quarts per acre Apply in fall after alfalfa becomes dormant but no later than January

California (Dormant and Semi-Dormant Varieties) Use 1 2 to 2 4 quarts per acre Apply in fall or winter after alfalfa becomes dormant or semi-dormant but before growth begins in the spring Crop injury may result if application is made to actively growing alfalfa For best results apply before weeds have emerged or become established (2 inches in height or diameter) Control of established weeds is improved by applying Diuron 4L with a suitable contact herbicide registered for such use Sufficient rainfall for soil activation of Diuron 4L is unlikely in California after February 1 Treated areas may be replanted to any crop after 1 year from last application if rate does not exceed 1 6 quarts per acre

Eastern Colorado, Kansas For control of tansymustard apply 0 8 quart per acre shortly after emergence of mustard in the fall or winter Use 1 6 quarts per acre if weeds are 2 to 4 inches in height Alternatively if other annual weeds are present apply 1 6 to 2 4 quarts per acre in February or March

Idaho, Oregon, Washington For control of annual weeds use 1 2 to 2 4 quarts per acre Apply after alfalfa becomes dormant and before new growth exceeds two inches in height in the spring

Other Areas Where Alfalfa Becomes Winter Dormant Use 1 2 to 2 4 quarts per acre (1 2 to 1 6 quarts per acre East of Appalachian Mountains) Apply in March or early April but before spring growth begins

APPLE

Aerial application is prohibited

Use Diuron 4L alone or apply as a tank mixture with Sinbar® Herbicide

Do not apply more than 3 2 quarts per acre per year When using Diuron 4L in a sequential treatment program allow a minimum of 90 days between applications Do not make more than two applications of Diuron 4L per year

Diuron 4L Alone Use only under trees established in the orchard for at least 1 year Do not treat varieties grafted on full-dwarf root stocks Apply 3 2 quarts per acre in the spring from March through May In the Far West apply 3 2 quarts per acre to small weeds less than 2 inches in height or diameter under dormant trees Alternatively treatments to small weeds may be applied at 1 6 quarts per acre postharvest followed by 1 6 quarts per acre prior to bud break

Georgia Apply 1 6 to 2 4 quarts per acre in the spring Repeat application in the fall but do not use more than 3 2 quarts per acre per year Add a surfactant to improve control of small emerged weeds

Diuron 4L plus Sinbar Use only under trees established in the orchard for at least 2 years Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth

RATE PER ACRE

Soil Texture	1 to 2% Organic Matter		More Than 2% Organic Matter	
	Diuron 4L Qts /Acre	Sinbar Lbs /Acre	Diuron 4L Qts /Acre	Sinbar Lbs /Acre
Sandy Loam	0 8	1 0	1 2	1 5
Loam Silt Loam Silt	1 2	1 5	1 6	2 0
Clay Loam Clay	1 6	2 0	1 6	2 0

Where crop is grown under furrow irrigation or under raised-berm flood irrigation (trees 4 to 6 inches above waterline) apply only as a band treatment Do not treat trees planted in the bottom of irrigation furrows nor trees grown under flat flood or basin irrigation as injury to trees may result Where complete weed control to harvest is desired additional weed control measures may be required during the growing season

ARTICHOKE

Aerial application is prohibited

California Apply 1 6 to 3 2 quarts per acre in late fall or early winter after the last cultivation Apply before weeds germinate or to emerging seedlings Direct spray to cover the area between the rows and at the base of artichoke plants keeping contact with crop plants at a minimum

ASPARAGUS

Aerial application is prohibited

Apply as a band or broadcast treatment. Do not apply to young plants during the first growing season (except as noted below) nor to newly seeded asparagus nor on plants with exposed roots as severe injury may result. Preemergence weed control will be reduced on soils with greater than 5% organic matter.

Established Plantings On light soils and other soils low in clay or organic matter apply 0.8 to 1.6 quarts per acre. On soils high in clay or organic matter use 1.6 to 3.2 quarts per acre. Two applications may be used. The first application should be made before weeds become established but no earlier than 4 weeks before spear emergence and no later than the early cutting period. If weeds are controlled into the cutting period by cultural practices application may be delayed until immediately after the last cultivation. A second application may be made immediately following completion of harvest provided rainfall is expected. When two applications are used in one season do not exceed 2.4 quarts per acre per application. In Washington (irrigated crop) apply a single treatment of 3.2 quarts per acre. If treatment is delayed until late winter or early spring incorporation of the chemical in the top 1 to 2 inches of soil may substitute for lack of rain to activate the herbicide.

Newly Planted Crowns (San Joaquin Delta, California) Make a single treatment of 1.6 to 3.2 quarts per acre on soils high in clay or organic matter. Use the lower rate on clay loams and the higher rate on peat soils. Do not use on soils containing less than 2% organic matter. Soil must be settled by rainfall or irrigation prior to treatment. Do not treat crowns planted to a depth of less than 2 inches.

BANANA AND PLANTAIN

Aerial application is prohibited

New Plantings To control annual weeds apply 1.2 to 2.4 quarts per acre after planting but before weed or crop emergence. Do not apply to loose soil directly over the planting material.

Established Plantings For control of annuals and for top-kill of perennials such as bermudagrass, birdseed grass, and guineagrass apply 2.4 to 4.8 quarts per acre plus surfactant. Avoid contact of banana and plantain plants with spray or drift as injury may result. When tall, dense weed growth is present remove weed growth before application. If application is made to soil free of weeds omit surfactant from the spray mixture. Repeat treatment as needed. Apply at 6-week intervals or longer for a maximum of 9.6 quarts of Diuron 4L per acre (broadcast basis) in 12 months.

Do not replant treated area to any crop within 2 years after last application as injury to subsequent crops may result. Exception: sugarcane or pineapple may be planted after 1 year.

BARLEY (WINTER)

Western Oregon, Western Washington For drill planted barley make a single application of 1.2 to 1.6 quarts per acre as soon as possible after planting but before emergence of barley.

Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result.

BERMUDAGRASS PASTURES (Newly-Sprigged)

Aerial application is prohibited

Apply 0.8 to 2.4 quarts after planting and before emergence of Bermudagrass or weeds. Alternatively for control of emerged annual weeds up to 4 inches in height apply 0.4 to 0.8 quart per acre add a surfactant per 25 gallons of spray. If bermudagrass has emerged at time of treatment temporary burn of exposed plant parts may occur. Plant sprigs (stolens) 2 inches deep in a well prepared seedbed. Do not treat areas where sprigs are planted less than 2 inches deep as crop injury may result. Do not graze or feed foliage from treated areas to livestock within 70 days after application.

BIRDSFOOT TREFOIL (LOTUS)

Aerial application is prohibited

Western Oregon Treat only stands established for at least 1 year. Do not apply to seedling trefoil as injury may result. Make a single application of 1.6 quarts per acre when trefoil is dormant (October 15 to December 15). Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result.

BLUEBERRY, CANEBERRY, GOOSEBERRY

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Aerial application is prohibited

Use only in fields which have been established for at least 1 year Do not apply to berries interplanted with fruit trees Do not apply to plants where roots are exposed as injury may result Apply as a band treatment at base of canes or bushes For spring application apply before germination and growth of annual weeds

Arkansas, Florida, Georgia, Mississippi, Missouri, New Hampshire, North Carolina, South Carolina Blueberry Apply 1.2 to 1.6 quarts per acre in the spring and repeat treatment after harvest in the fall Add a surfactant to improve control of small emerged weeds

California-Blackberry, Boysenberry, Dewberry, Loganberry, Raspberry For control of winter annual weeds apply 1.6 quarts per acre in October or November Repeat at the same rate in late spring to control summer annuals A single application of 2.4 quarts per acre in January or February will control annual weeds in some areas but the separate fall and spring schedule is preferred

Indiana, Michigan, Ohio-Blueberry Apply 1.6 to 3.2 quarts per acre in late spring Alternatively apply 1.6 quarts per acre in the fall and repeat at the same rate in the spring

Indiana, Michigan, Ohio-Raspberry Apply 2.4 quarts per acre in late spring

Maine, Massachusetts-Blueberry Apply 1.6 quarts per acre in late spring

Maryland, New Jersey Blueberry For control of winter annual weeds apply 1.6 quarts per acre from October to December or make a single application of 2.0 quarts per acre in early to mid spring

Western Oregon, Western Washington-Blueberry, Caneberry, Gooseberry For control of winter annual weeds apply 1.6 quarts per acre in October or November Repeat at the same rate in late spring to control summer annual weeds A single application of 2.4 quarts per acre in January or February will control both winter and summer annual weeds in some areas but the separate fall and spring schedule is preferred

CITRUS

Aerial application is prohibited

Time application as indicated for specific areas However application may be made any time of the year where sprinkler or flood irrigation can be timed to activate the herbicide Established perennial weeds require other special control procedures

Diuron 4L may be applied in citrus in combination with registered paraquat and glyphosate formulations Read and follow specific label instructions precautions and restrictions on the label of the tank mix partner when applying Diuron 4L in combination with other products

Note For citrus trees four or less years of age

Make a maximum of two applications per year

Where Diuron 4L is used in a sequential treatment program allow a minimum of 60 days between applications

For citrus trees four or more years of age

- Make a maximum of two applications per year

- When Diuron 4L is used in a sequential treatment program allow a minimum of 80 days between applications

Arizona (except Yuma area), California (except Imperial and Coachella Valleys) Apply 2.4 to 3.2 quarts per acre shortly after grove has been laid up in final form (nontillage program) in late fall or early winter Alternatively apply 1.6 quarts per acre in October or November and repeat at the same rate in March or April Subsequent annual applications of 1.6 to 2.4 quarts per acre will usually give adequate weed control

Do not use more than 3.2 quarts per treated acre in any one application Do not apply more than 6.4 quarts per treated acre per year This amount corresponds to 6.4 pounds of diuron the active ingredient in Diuron 4L The maximum allowable use rate for diuron is 6.4 pounds per treated acre per year inclusive of all diuron formulations used within one year

Florida Use only as a band application Do not use Trunk to Trunk

East Coast/Flatwoods Areas-(low permeable soils)

Apply from 1.6 quarts per acre to a maximum of 6.4 quarts per acre for control of annual broadleaf weeds and annual grasses Addition of an approved surfactant will improve control of emerged weeds

Do not use more than 6.4 quarts per treated acre in any one application

Do not apply more than 6.4 quarts per treated acre per year This amount corresponds to 6.4 pounds of active ingredient

The maximum allowable use rate for diuron is 6.4 pounds active ingredient per treated acre per year inclusive of all diuron formulations used within one year

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Ridge Areas-except Highland Co (highly permeable soils)

Apply from 1.6 quarts per acre to a maximum of 3.2 quarts per acre for control of annual broadleaf weeds and annual grasses. Addition of an approved surfactant will improve control of emerged weeds. Do not use more than 3.2 quarts per treated acre in any one application.

Do not apply more than 6.4 quarts per treated acre per year. This amount corresponds to 6.4 pounds of active ingredient.

The maximum allowable use rate for diuron is 6.4 pounds active ingredient per treated acre per year inclusive of all diuron formulations used within one year.

Ridge Areas-Highland Co (highly permeable soils)

Apply from 1.6 quarts per acre to a maximum of 3.2 quarts per acre for control of annual broadleaf weeds and annual grasses. Addition of an approved surfactant will improve control of emerged weeds. Do not use more than 3.2 quarts per treated acre in any one application.

Do not apply more than 4.8 quarts per treated acre per year. This amount corresponds to 4.8 pounds of active ingredient.

The maximum allowable use rate for diuron is 4.8 pounds active ingredient per treated acre per year inclusive of all diuron formulations used within one year.

Do not use at less than 60-day intervals.

Puerto Rico Make a single application of 3.2 quarts per acre or apply 2.4 to 3.2 quarts per acre followed by the same rate 4 to 6 months later. On bearing citrus apply anytime when seasonal rains are expected. On nonbearing trees apply when winter banks are pulled down.

Do not use more than 3.2 quarts per treated acre in any one application. Do not apply more than 6.4 quarts per treated acre per year. This amount corresponds to 6.4 pounds of diuron the active ingredient in Diuron 4L. The maximum allowable use rate for diuron is 6.4 pounds per treated acre per year inclusive of all diuron formulations used within one year.

Texas Apply 1.6 to 3.2 quarts per acre for annual weeds. Use 3.2 quarts per acre for control of seedling johnsongrass. Spring treatments give best results. Well-established weeds should be eliminated by cultivation prior to treatment.

Do not use more than 3.2 quarts per treated acre in any one application. Do not apply more than 6.4 quarts per treated acre per year. This amount corresponds to 6.4 pounds of diuron the active ingredient in Diuron 4L. The maximum allowable use rate for diuron is 6.4 pounds per treated acre per year inclusive of all diuron formulations used within one year.

CORN (FIELD)

Aerial application is prohibited.

Postemergence Make a single application of 0.6 quart per acre in combination with non-pressure nitrogen solution. If nitrogen solution is not used apply 0.8 quart per acre with surfactant. Apply as directed spray when corn is at least 20 inches high and weeds are no taller than 3 inches.

DO NOT APPLY OVER TOP OF CORN

Do not replant to any crop within 1 year after last application as injury to subsequent crops may result. Exception cotton, corn and grain sorghum may be planted the spring following treatment.

Preemergence-Arkansas, Louisiana, Mississippi, Tennessee Make a single application of 0.5 to 0.8 quart per acre as a broadcast or band treatment after planting but before corn emerges. Plant corn at least 1.5 inches deep. Do not replant treated areas to crops other than corn or cotton within 4 months following band treatment and 6 months following broadcast treatment as injury to subsequent crops may result.

Preplant-Louisiana

Do not apply to sand or loamy sand soils. Do not use on soils with less than 1% organic matter as crop injury may result. Plant corn at least 1.5 inches deep. Do not spray over the top of corn plants.

Diuron 4L may be used for burndown of existing annual weeds and residual control of weeds prior to planting field corn. **Do not use on sweet corn.** Complete any planned tillage prior to application. Apply herbicide treatments before weeds germinate or before weed seedlings are more than 2 inches tall. If weeds are emerged prior to application the addition of a non-ionic surfactant is recommended. Tillage following application should be avoided to prevent incorporation of the herbicide into the corn seed germination zone which may result in crop

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injury Dragging treated soil from beds will concentrate the herbicide in middles and reduce residual weed control on beds

Apply 1.0 to 1.6 pints per acre from 15 to 45 days prior to anticipated planting Refer to the table below for use rates in preplant applications Do not exceed use rates for individual soil textures shown in the table below If less than the maximum rate of application for a soil is applied preplant subsequent preemergence applications of Diuron 4L may be made However the total combined application rate for Diuron 4L applied preplant and preemergence must not exceed the maximum use rate for either application method

Diuron 4L Alone

Soil Texture	Rate/Acre
Sandy Loam Loam Silt Loam Silt	1.0 pt
Sandy Clay Loam Clay Loam Silty Clay Loam Sandy Clay	1.3 pts
Silty Clay Clay	1.6 pts

The risk of injury from preplant applications of Diuron 4L is reduced where substantial rainfall (greater than 0.5 inches) occurs between application and planting

Preplant Tank Mixing When emerged weeds taller than 2 inches or weeds not listed on this label are present Diuron 4L may be tank mixed with other products labeled for preplant applications in corn including Glyphosate Original Gramoxone® Extra Roundup® Ultra and Touchdown® The addition of dry spray grade ammonium sulfate at the rate of 2.0% w/w (17 pounds per 100 gallons finished spray solution) is suggested to enhance performance of Diuron 4L plus glyphosate tank mixes

Replanting Only cotton and corn may be replanted within 6 months of preplant applications of Diuron 4L To avoid crop injury following replanting avoid disturbing the original bed

COTTON

During a single crop season do not exceed the following amount of Diuron 4L per acre as injury to subsequent crops may result 0.8 quart on sandy loam 1.5 quarts on clay loam and 2.2 quarts on clay Do not make more than 3 applications of Diuron 4L per year

DO NOT SPRAY OVER THE TOP OF COTTON PLANTS

Do not apply to sand or loamy sand soils except as noted below
Do not use on soils with less than 1% organic matter as crop injury may result
Seedling disease may weaken plants and increase the possibility of injury from the use of trifluralin products followed by Diuron 4L These treatments should be used only in conjunction with a standard fungicide seed treatment plus a good supplemental soil fungicide program such as captan-PCNB mixture

Do not use Diuron 4L in preplant or preemergence applications where soil applied organophosphate insecticides are used due to potential for severe cotton injury and possible stand loss

Do not allow livestock to graze treated cotton
Note When using Diuron 4L in a sequential treatment program allow a minimum of 21 days between applications

PREPLANT

Arizona, California Use Diuron 4L alone or apply as a separate operation following preplant broadcast treatment with trifluralin products (incorporated according to directions on the trifluralin product label) Apply Diuron 4L as a broadcast spray after beds are formed pre-irrigated and final seedbeds prepared Prior to planting drag-off the tops of the beds and plant in moist soil not treated with Diuron 4L Treated soil is returned to the bed after planting when irrigation furrows are reformed after cotton has emerged If more than two furrowing-out operations are performed prior to lay-by or deep furrows are made early weed control may be reduced in furrow bottoms

Diuron 4L Alone Apply 0.8 to 1.6 quarts per acre

Diuron 4L following trifluralin products

Soil Texture	RATE/ACRE	Trifluralin products	Diuron 4L
Sandy Loam Loam Silt Loam Silt		1 pint	0.5-0.8 quart
Sandy Clay Loam Clay Loam Silty Clay Loam Sandy Clay Clay		1.5 pints	0.8-1.0 quart

PREPLANT

Except Arizona, California Diuron 4L may be used for burndown of existing annual weeds and residual control of weeds prior to planting cotton Complete any planned tillage prior to application Apply herbicide treatments before weeds germinate or before weed seedlings are more than 2 inches tall If weeds are emerged prior to

application the addition of a nonionic surfactant is recommended Tillage following application should be avoided to prevent incorporation of the herbicide into the cotton seed germination zone which may result in crop injury Dragging treated soil from beds will concentrate the herbicide in middles and reduce residual weed control on the beds

Apply 0.5 to 1.6 quarts per acre from 15 to 45 days prior to anticipated planting Refer to the table below for use rates in preplant applications Do not exceed use rates for individual soil textures shown in the table below If less than the maximum rate of application for a given soil is applied preplant subsequent preemergence applications of Diuron 4L may be made However the total combined application rate for Diuron 4L applied preplant and preemergence must not exceed the maximum use rate for either application method

Diuron 4L Alone

Soil Texture	Rate/Acre
Loamy Sand (Louisiana only)	0.5 quart
Sandy Loam Loam Silt Loam Silt	0.8 quart
Sandy Clay Loam Clay Loam Silty Clay Loam Sandy Clay	1.0 quart
Silty Clay Clay	1.6 quarts

Preemergence application of herbicides with a similar mode of action to that of diuron following preplant application of Diuron 4L may result in cotton injury When preplant applications of Diuron 4L are followed by preemergence applications of herbicides with a similar mode of action (for example Meturon® Cotoron® or other products containing fluometuron) the product containing fluometuron should be used at the minimum rate of application for the soil under consideration in order to reduce potential for crop injury This is most critical where applications of Diuron 4L are made less than 30 days preplant on coarse-textured soils and on soils low in organic matter The risk of injury from preplant applications of Diuron 4L is reduced where substantial rainfall (greater than 0.5 inches) occurs between application and planting Read and follow any additional precautions on this label when using this product for preplant weed control in cotton

PREPLANT TANK MIXES When emerged weeds taller than 2 inches or weeds not listed on the Diuron 4L label are present Diuron 4L may be tank mixed with other products registered for preplant applications in cotton The addition of dry spray grade ammonium sulfate at the rate of 2.0% w/w (17 lbs per 100 gallons finished spray solution) is suggested to enhance performance of Diuron 4L plus glyphosate tank mixes

REPLANTING Only cotton and corn may be planted within 6 months of preplant applications of Diuron 4L To avoid crop injury following replanting avoid disturbing the original bed

PREEMERGENCE

Except Arizona, California Use Diuron 4L alone or apply as a separate operation following preplant treatment with trifluralin products Apply Diuron 4L after planting but before cotton emerges

Do not treat cotton in deep furrows as crop injury may result

Use only where cotton is planted on flat or raised seedbeds Shallow incorporation (no deeper than 0.25 inch) with a rotary hoe or similar equipment following planting usually improves results especially during dry weather A wide press wheel should be used on the planter to provide a level seedbed for subsequent early season postemergence treatments If moisture is insufficient to activate Diuron 4L or if soil becomes crusted before crop emerges a shallow rotary hoeing (no deeper than 0.25 inch) should be made before weeds become established Diuron 4L should not be applied preemergence following application of the maximum rate for a given soil applied preplant If less than the maximum rate is used preplant additional Diuron 4L may be applied preemergence However the total amount of Diuron 4L applied preplant and preemergence must not exceed the maximum use rate for either preplant or preemergence applications

Diuron 4L Alone Make a single application as a broadcast or band spray using the following broadcast rates Use proportionately less for band treatment

SOIL TEXTURE	RATE/ACRE
Sandy Loam Loam Silt Loam Silt	0.8 quart
Sandy Clay Loam Clay Loam Silty Clay Loam Sandy Clay	1.0 quart
Silty Clay Clay	1.6 quarts

PREEMERGENCE APPLICATIONS OF DIURON 4L FOLLOWING TRIFLURALIN PRODUCTS Apply trifluralin products prior to planting as a broadcast or band treatment Incorporate according to the directions on the trifluralin labels As a separate operation apply Diuron 4L after planting but before cotton emerges Use the following broadcast rates For band treatment use proportionately less

RATE/ACRE

Soil Texture	Trifluralin products	Diuron 4L
Sandy Loam Loam Silt Loam Silt	1 pint	0 8 quart
Sandy Clay Loam Clay Loam Silty Clay Loam Sandy Clay Clay Silty Clay	1 5 pints	1 0 to 1 6 quarts

POSTEMERGENCE Apply Diuron 4L only as a directed spray to cover weed foliage Adjust nozzles to minimize contact of cotton leaves with spray or drift or crop injury may result Applications may also be made in hooded/shielded sprayers

EARLY SEASON Apply when cotton is at least 6 inches tall and when weeds are not actively growing and do not exceed 2 inches in height Apply as a band or broadcast treatment at the following rate Two applications may be made if needed

Annual Weed Problem (up to 2 inches tall)	Rate Per Acre
Cotton 6 to 8 inches	0 4 quart
Cotton 8 to 12 inches	0 6 quart

For control of seedling perennial grass such as johnsongrass in directed sprays and partial control of nutsedge or when weed growth is under drought stress or over 2 inches in height add 1 65 to 2 0 lbs active MSMA to above spray mixture If MSMA is used do not apply after first bloom

For enhanced weed control in hooded/shielded sprayer applications add MSMA as directed above or add registered paraquat or glyphosate formulations according to label recommendations Consult product labels for specific directions and precautions for hooded sprayer applications

LATE SEASON (LAY-BY) Apply 0 8 to 1 2 quarts (0 8 to 1 6 quarts in Arizona and California) per acre when cotton is at least 12 inches high (at least 20 inches for Pima S-2) For control of germinating weed seedlings apply to soil beneath cotton plants and between rows immediately after last cultivation In irrigated cotton best weed control is obtained if the field is irrigated within 3 to 4 days after application to thoroughly wet the surface of the ground over the row to carry the herbicide into the root zone of germinating weeds Alternatively for control of emerged annual weeds (4 inches or less in height) at lay-by time make a single application in combination with surfactant or use 0 4 to 0 6 quart per acre plus surfactant and repeat later if needed

REPLANTING If initial seeding fails to produce a stand cotton may be replanted in soil treated preemergence with Diuron 4L alone or following preplant application of trifluralin products Wherever possible avoid disturbing original bed If necessary to rework soil before replanting use shallow cultivation such as discing Do not relist nor move soil into the original drill area Plant seed at least 1 inch deep Do not retreat field with a second preplant or preemergence application of herbicide during the same crop year as injury to crop may result

SUBSEQUENT CROPS

Diuron 4L Herbicide Type of Application	That May Follow Treated Cotton
Band pre or postemergence	Any crop 4 months after last application
Band pre plus postemergence or Broadcast preemergence (and preplant) or Broadcast preemergence plus band postemergence	Cotton soybeans corn or grain sorghums (not sorgos or forage sorghums nor grass sorghums) the next spring Do not replant treated areas to any other crop within 1 year after last application as injury to subsequent crops may result
Broadcast postemergence (lay-by)	Cotton corn grain sorghums (not sorgos or forage sorghums nor grass sorghums) the next spring Do not replant treated areas to any other crop within 1 year after last application as injury to subsequent crops may result

For subsequent crops in fields where trifluralin products are used follow instructions on the trifluralin product label

FILBERTS

Aerial application is prohibited Apply Diuron 4L for control of certain weeds in filbert orchards established for at least 1 year

Do not apply more than 2.2 quarts per acre per application nor more than 3.2 quarts per acre per year. When using Diuron 4L in a sequential treatment program allow a minimum of 150 days between applications. Apply a maximum of two applications per year.

Apply Diuron 4L as a directed spray avoiding contact on the foliage and fruit with spray or drift. Make an initial treatment of 2.2 quarts per acre in the late fall or early winter after harvest. Repeat annually with 2.2 quarts per acre or apply 1.6 quarts per acre in October or November after harvest and repeat at the same rate in March or April.

Do not apply when nuts are on the ground.

Do not graze livestock in treated orchards.

Do not use on light sandy soils.

If trees are planted on hillsides the elimination of weeds and ground cover may cause excessive soil erosion. Under these conditions strip applications of Diuron 4L (at proportionately lower rates) may be made near the trees or to the tree rows perpendicular to the slope.

GRAPE

Aerial application is prohibited.

Apply only as a band treatment to established vineyards at least 3 years old. On soils low in clay or organic matter (1 to 2%) severe plant injury may result if heavy rainfall or more than 1 inch of irrigation occurs soon after treatment. This risk must be assumed by the user.

Do not apply more than 4 quarts per acre as a single maximum use rate. Do not apply more than 8 quarts per acre per year. When using Diuron 4L in a sequential treatment program allow a minimum of 90 days between applications. Avoid direct or indirect spray contact to foliage and green bark (nonbarked vines with the exception of undesirable suckers). Apply a maximum of two applications per year.

New York, Pennsylvania-Perennial Grasses Use only in established vineyards (at least 4 years old) for spot control of perennial grasses such as orchardgrass, quackgrass, and ryegrass. Apply in the spring as a band treatment to ridged soil (2 to 4 inches high) under trellis at the rate of 4 quarts per acre. Band width should not exceed 30 inches. Do not apply more than once every 4 years. Use only on heavy soil types such as loams, silt loams, clay loams. Do not use in areas where grape roots are shallow or exposed because of high bedrock or poor drainage or erosion as injury to grapevines may result.

East of the Rocky Mountains On soils low in clay or organic matter (1 to 2%) apply 1.6 to 2.4 quarts per acre. On soils high in clay or organic matter apply 2.4 to 4 quarts per acre. Apply in the spring just prior to germination of annual weeds.

West of the Rocky Mountains For best results apply during the winter months when weeds are less than 2 inches in height or diameter. Rainfall or overhead sprinkler irrigation sufficient to wet the soil to a depth of 2 inches is necessary to activate the herbicide. Abnormally heavy rainfall following application just before spring growth may move the herbicide into the root zone of grapes which could result in injury. For initial treatment apply 2.4 to 3.2 quarts per acre. Subsequent annual applications of 1.6 quarts per acre will usually give adequate weed control. Do not apply to vines with trunks less than 1.5 inches in diameter as injury may result.

GRASS SEED CROPS

(Perennial except where specifically indicated)

Except as noted apply only to established plantings at least 1 year old.

Note Apply a single application per year at up to 2.4 quarts per acre. May be applied by aerial application in the Pacific Northwest only. Do not make more than one application per year.

Colorado, Kansas, Missouri, New Mexico, Oklahoma On sand, bluestem, side oats grama, and switchgrass apply 1.6 to 2.4 quarts per acre during the dormant period shortly before weed seedlings emerge. Do not apply after crop begins growth in the spring as crop injury may result. In fields where ash residues have accumulated from burning straw use 2.4 quarts per acre. Spread unburned chaff or straw with a harrow or chopper before application.

Eastern Oregon, Eastern Washington On perennial bluegrass and fescue apply 0.8 to 2.4 quarts per acre as broadcast in enough diluent to get even distribution. Apply in spring before rapid growth of the crop begins and when the windgrass is still small (1- to 4-leaf). DO NOT use on coarse- (sandy) textured soils.

Western Oregon, Western Washington On alta fescue, Astoria bentgrass, Highland bentgrass, Kentucky bluegrass (Merion bluegrass) and orchardgrass apply 1.6 to 2.4 quarts per acre between October 1 and November 15. In fields where ash residues have accumulated from burning straw use 2.4 quarts per acre.

Spread unburned chaff or straw with a harrow or chopper before application For best results apply as soon as possible after fall rains start Established weeds beyond the two- to four-leaf stage should be removed prior to treatment

Well established vigorous stands of spring planted alta fescue Kentucky bluegrass and orchardgrass may be treated the following fall provided the crop is planted before April 1 and treatment is not applied before October 15 apply 1.6 quarts per acre

Oregon and Washington Apply in the fall to perennial ryegrass at the rate of 0.8 to 1.6 quarts per acre and to tall fescue at the rate of 1.6 to 2.4 quarts per acre Use a sufficient volume of water (a minimum of 25 gallons per acre) for thorough coverage of weed foliage For best results make applications at the onset of the fall rains and before weeds have become established (typically October 1 through November 15) Established weeds beyond the 2- to 4-leaf stage should be removed prior to treatment

Apply only to well established vigorous stands Do not apply to perennial ryegrass stands less than one year old Use mechanical agitation and avoid overlap of spray patterns Weed control efficacy may be reduced in fields where ash residues have accumulated from burning straw

Annual Ryegrass for the Creation of Rows Apply 0.8 to 1.6 quarts per acre as a directed or shielded spray so the intended crop row area is not treated These applications should be made where excessive populations of annual ryegrass are anticipated to volunteer from previous crops Applications can be made as a directed/shielded spray during seeding or after emergence of annual ryegrass These applications generally will occur between October 1 and January 15 Diuron 4L is most effective when applied before annual ryegrass volunteer plants have more than 2 leaves If larger plants are to be treated addition of a labeled postemergence herbicide will provide more effective control

Adjust nozzle heights and spacing to allow the establishment of the desired row width (generally about 3 inches) and spacing (generally 9 to 12 inches) Use low pressure nozzles shielded nozzles or drop nozzles to reduce spray movement in the intended crop row area

Fine Fescue Grass Seed Crops (including chewings, creeping red, and hard fescue types) For the suppression of rattail fescue apply 0.8 to 1.6 quarts per acre on soils having at least 1% organic matter Do not use on sand loamy sand gravelly soils or exposed subsoils

Crop Stage and Application Timing Use Diuron 4L on healthy vigorous stands of fine fescue Diuron 4L can be applied to stands established at least 1 year or to new plantings that have been established for at least 6 months and have a minimum of eight tillers at time of application

Apply in the fall before grass weeds are beyond the one- to two leaf stage and before broadleaf weeds are larger than 1- to 2-inches tall or across Use the high end of the rate range for large weeds or where weed populations are high

Approximately 1/2 to 1 inch of rainfall or sprinkler irrigation is needed to move Diuron 4L into the weed zone before weeds develop an established root system Weeds larger than the size indicated or those having a well established root system before Diuron 4L is properly activated by rainfall/irrigation may not be adequately controlled

Weed control may be reduced by heavy straw residues or ash from field burning

Tank Mixes Diuron 4L can be applied either alone or in a program involving tank mixes with other herbicides and adjuvants When using a tank mix with other herbicides use 0.8 to 1.2 quarts per acre unless prior experience indicates it is safe to use higher rates Tank mixes with other herbicides can increase the risk of crop injury When using a certain tank mix for the first time limit use to a small area to determine safety before treating large areas

Use Precautions

Do not replant treated areas to any crop within 2 years of last application as injury to subsequent crops may result

Do not apply to snow covered or frozen ground as injury to the crop or poor weed control may result

Do not treat stands lacking in vigor due to poor fertility environmental stress insect or disease or damage from other herbicides

New Plantings Oregon, Idaho, Washington For use in newly planted bentgrass chewings fescue Kentucky bluegrass perennial ryegrass orchardgrass and tall fescue During planting operation spray a suitable brand of activated charcoal as a 1 inch band on soil surface at 15 pounds per acre of crop where row spacing is 20 inches (300 pounds per acre broadcast basis) Mount nozzles to apply directly over seed rows to prevent crop injury Follow with Diuron 4L as a single broadcast spray at the rate of 2.0 to 2.4 quarts per acre Apply as soon as possible after planting but before crops or weeds emerge and before rains or sprinkler irrigation Fall or spring

plantings may be treated Best results usually occur with early fall plantings Treatment will not control downy brome or wild oats

PERENNIAL RYEGRASS, TALL FESCUE, KENTUCKY BLUEGRASS, AND FINE FESCUE (Grown for Seed)

For control of certain broadleaf weeds and annual grasses apply this product only to well-established vigorous stands of grasses as directed below Use sufficient water (a minimum of 25 gallons per acre) for thorough coverage of weed foliage For best results make application at the onset of fall rains and before weeds become established (typically October 1 through November 15) Weeds beyond the 2- to 4-leaf stage will usually not be controlled Use higher rates within the range listed when treating larger weeds and heavier weed infestation Weed control may be reduced where straw or ash residues have accumulated on the soil surface Lack of moisture to activate the herbicide may reduce weed control Tank mixtures or sequential treatments with other herbicides may reduce crop tolerance and increase risk of crop injury When using Diuron 4L in a tank mix or in a sequential treatment with other herbicides do not use the maximum rates listed below unless compatibility and the potential for phytotoxicity have been evaluated Crop tolerance may be reduced and the likelihood of crop injury may increase when crop is under stress caused by weather diseases and insects

Perennial Ryegrass (Established)(Oregon Only) Apply 0.8 to 1.6 quarts per acre per season (October 1 through mid-January) to control seedling grasses and broadleaf weeds such as annual bluegrass and others named on this label

Tall Fescue (Established)(Oregon Only) Apply 1.6 to 2.4 quarts per acre per season (October 1 through mid-January) to control seedling grasses and broadleaf weeds such as rattail fescue and others named on this label

Kentucky Bluegrass (Established stands east of the Cascade Mountains)(Oregon, Washington Only) Apply 1.2 to 2.4 quarts per acre per season (October 1 through mid-January) for suppression of rattail fescue and certain other seedling grasses and broadleaf weeds named on this label Downy brome is not controlled Do not use on *Poa trivialis* grass seed varieties

Fine Fescue (Illiahee, Rainier, Chewings, and related varieties including Hard Fescue)(Established stands west of the Cascade Mountains)(Oregon Only) Apply 0.8 to 1.6 quarts per acre for suppression of rattail fescue and certain other seedling grasses and broadleaf weeds named on this label Make only 1 application per year Do not use this product more than two years in succession in the same field

ESTABLISHED PERENNIAL BLUEGRASS (Grown for Seed)(Washington, Oregon, Idaho)

Broadcast 0.4 to 1 quart per acre in sufficient diluent to provide even distribution of product for weed suppression Apply in the spring before rapid growth of bluegrass begins and when windgrass is still small (1- to 4-leaf) Do not use on coarse- (sandy-) textured soils

MACADAMIA NUT

Aerial application is prohibited

Hawaii Use only under trees established in the orchard for at least 1 year Apply 1.6 to 4.8 quarts per acre immediately after harvest preferably before weeds emerge If weeds have emerged add surfactant Retreat as needed but do not exceed 8.0 quarts per acre per year

OATS

Aerial application is prohibited

Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result

Drill Planted Spring Oats Idaho, Eastern Oregon, Eastern Washington Use in areas where average annual rainfall exceeds 16 inches Make a single application of 0.8 to 1.2 quarts per acre after planting either before or after oats emerge but within 6 weeks of planting Best results are usually obtained when application is made 3 to 4 weeks after planting Apply before weeds are 3 to 4 inches in height

Drill Planted Winter Oats and Mixture with Peas or Vetch Western Oregon, Western Washington Make a single application of 1.2 to 1.6 quarts per acre as soon as possible after planting but before crop emergence

OLIVE

Aerial application is prohibited

California Use only under trees established in the grove for at least 1 year Apply 1.6 quarts per acre after the grove has been laid-up in final form in late October or November Repeat at same rate in March or April Remove weed growth prior to treatment

ORNAMENTALS

Aerial application is prohibited

Refer to **SOIL LIMITATIONS** section of this label for additional directions precautions and restrictions

Ornamental Bulb Crops (Bulbous Iris, Narcissus) Western Washington Make a single application of 3.2 quarts per acre Apply after planting but no later than 4 weeks prior to bulb emergence (usually late September or October) Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result

Plumosus Fern Florida Hand weed and mow fern then make a single application of 2.4 quarts per acre within 3 to 5 days Do not cultivate or disturb soil after application as crop injury may result Treat only established stands at least 1 year old

PAPAYA

Aerial application is prohibited

Use only under trees established in the orchard for at least 1 year Apply 2.0 to 4.0 quarts per acre preferably before weeds emerge If weeds have emerged add a surfactant

In Hawaii only for control of weeds in orchards less than one year old use as a post-plant treatment between rows Use only in orchards that are lined with mulch paper in the crop row Apply preemergent or postemergent in sufficient gallonage for wetting of weeds and soil Spray up to mulch paper only Do not apply more than 4.0 quarts per acre per year Do not allow spray to contact papaya foliage or other desirable vegetation Do not graze livestock in treated areas

PEAS (Austrian Field)

Aerial application is prohibited

Western Oregon Apply Diuron 4L for selective control of certain weeds in Austrian field peas

Apply 1.2 to 1.6 quarts Diuron 4L per acre as a broadcast spray with ground equipment as soon as possible after planting but before crop emerges for control of weeds such as chickweed shepherdspurse wild mustard fiddleneck lambsquarters pigweed and annual bluegrass Use lower rate on coarse textured soils and higher rate on fine textured soils

Do not use Diuron 4L on sand sandy loam gravelly soils or exposed subsoils or on soils having less than 1% organic matter as crop injury may result Do not replant treated area to another crop within 1 year of application Crop injury may result if severe winter stress or disease or insect damage to the crop follows application

PEACH

Aerial application is prohibited

Diuron 4L may be applied alone or as a tank mix with Sinbar

Where crop is grown under furrow irrigation or under raised berm flood irrigation (trees 4 to 6 inches above waterline) apply only as a band treatment Do not treat trees planted in the bottom of irrigation furrows nor trees grown under flat flood or basin irrigation as injury to trees may result Where complete weed control to harvest is desired additional weed control measures may be required during the growing season

Diuron 4L Alone Use only under trees established in the orchard for at least 3 years Apply 1.6 to 2.2 quarts per acre in the early spring before weeds emerge or during the early seedling stage of weed growth do not apply more than 2.2 quarts per acre per application in all areas except California In California apply 1.6 to 3 quarts per acre do not apply more than 3 quarts per acre per application Do not apply within 3 months of harvest In the Far West do not apply within 8 months of harvest

Georgia On trees established for at least 2 years apply 1.6 to 2.2 quarts per acre in the spring Repeat application in the fall but do not exceed 4.0 quarts per acre per year Add surfactant to improve control of small emerged weeds

Diuron 4L plus Sinbar Use only under trees established in the orchard for at least 2 years Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth

Soil Texture	RATE/ACRE					
	1 to 2% Organic Matter			More Than 2% Organic Matter		
	Diuron 4L Qts /Acre		Sinbar Lbs /Acre	Diuron 4L Qts /Acre		Sinbar Lbs /Acre
Sandy Loam	0.8	+	1.0	1.2	+	1.5
Loam Silt Loam Silt	1.2	+	1.5	1.6	+	2.0
Clay Loam Clay	1.6	+	2.0	1.6	+	2.0

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PEAR

Aerial application is prohibited

Use only under trees established in the orchard for at least 1 year Do not treat varieties grafted on full-dwarf root stocks Apply 3.2 quarts per acre in the spring from March through May In the Far West apply 3.2 quarts per acre to weeds less than 2 inches in height or diameter under dormant trees Alternatively apply to small weeds at 1.6 quarts per acre postharvest followed by 1.6 quarts per acre prior to budbreak

PECAN

Aerial application is prohibited

Use Diuron 4L alone or as a tank mix with Sinbar Make a single band or broadcast application as a directed spray using a minimum of 30 gallons of water per acre Apply in the spring before weeds emerge or during the early seedling stage of growth

Soil Texture	RATE/ACRE			
	Diuron 4L Alone*	OR	Tank Mix** Diuron 4L	+ Sinbar
Sandy loam	1.6 quarts		1.2 quarts	+ 1.5 pounds
Loam Silt loam Silt	2.4 quarts		1.4 quarts	+ 1.75 pounds
Clay loam Clay	3.2 quarts		1.6 quarts	+ 2.0 pounds

*Use only under trees established in the grove for at least 3 years and on soils with at least 0.5% organic matter

** Use only under trees established in the grove for at least 1 year and on soils with at least 1% organic matter

Note Do not use on eroded areas where subsoil or roots are exposed nor on trees that are diseased or lacking in vigor nor on trees planted in irrigation furrows as injury may occur

PEPPERMINT

Aerial application is prohibited

Washington, Oregon, Idaho, California Apply 0.6 to 0.8 quart per acre on soils having 1 to 2% organic matter Apply 0.8 to 1.6 quarts per acre on soils having 2.1 to 3.0% organic matter Apply 1.6 to 2.4 quarts per acre on soils having more than 3.0% organic matter

Do not apply to stands of mint suffering from stress due to low fertility drought winter injury insects disease or damage from other herbicides or other causes

Do not apply to snow covered or frozen ground as injury to the crop or poor weed control may result

Do not apply to sand loamy soil gravelly soils or exposed subsoils Do not apply to soils that have a high salt content and/or high water table or poor drainage that retards mint root development resulting in a shallow root system Do not apply to soils having less than 1% organic matter

Application Timing Apply Diuron 4L to established (at least one year) stands of mint during the late winter dormant period or after flaming in the spring prior to the emergence of new growth Do not cultivate after application

If weeds are present at time of application the use of a surfactant at 0.25% v/v or crop oil concentrate at 1.0% v/v may be used to increase the performance of Diuron 4L postemergence to weeds

Tank Mixes and Sequential Treatments Diuron 4L can be applied either alone or in a program involving tank mixes and/or sequential treatments with other herbicides and adjuvants providing Diuron 4L is not applied to actively growing mint plants

When using a tank mix with other herbicides use the lower end of the Diuron 4L use rate range unless prior experience indicates it is safe to use higher rates Tank mixes and sequential treatments with other herbicides can increase the risk of crop injury When using a certain tank mix or sequential treatment for the first time limit use to a small area to determine safety before treating large areas

PINEAPPLE

Aerial application is prohibited

Hawaii Apply 1.6 to 4.8 quarts per acre as a broadcast spray just before or immediately after planting but prior to weed emergence Use 1.6 to 3.2 quarts per acre after harvesting the plant crop or ratoon crop (for the first ratoon crop as well as subsequent ratoon crops) but before differentiation For plant crop only additional broadcast or interspace applications may be made prior to differentiation at the rate of 1.6 quarts per acre at intervals of not less than 2 months Additional applications to plant crop may be made as needed to interspace only using 1.6

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quarts per acre Do not apply more than 9.6 quarts per acre as broadcast sprays nor more than 12.8 quarts total per acre per plant crop Treated areas may be planted to pineapple or sugarcane 1 year after last application

Florida Apply 3.2 to 5.0 quarts per acre as a broadcast spray just before or immediately after planting but prior to weed emergence For ratoon crop use 3.2 quarts per acre after harvesting plant crop For plant crop only a second and third broadcast or interspace application may be made prior to differentiation at the rate of 1.6 quarts per acre at intervals of not less than 2 months Additional applications to plant crop may be made as needed to interspace only using 1.6 quarts per acre Do not apply more than three broadcast sprays (maximum 9.6 quarts per acre) prior to differentiation nor more than 12.8 quarts total per acre per plant crop Treated areas may be planted to pineapple or sugarcane 1 year after last application

Puerto Rico Apply 3.0 to 5.0 quarts per acre as a broadcast spray before or immediately after planting but prior to weed emergence Preemergence application controls weeds such as pigweed crotalaria morningglory purslane crabgrass foxtail goosegrass fall panicum and sourgrass

RED CLOVER

Aerial application is prohibited

Western Oregon Make a single application of 1.6 quarts per acre on established red clover stands at least 9 months old Apply when red clover is dormant between October 15 to December 15 Do not apply to seedling red clover Do not replant treated area to any crop within 1 year after last application as injury to subsequent crops may result

Treatment will control annual weeds such as bluegrass chickweed hawksbeard rattail fescue ryegrass and velvetgrass

SORGHUM (Grain)

Aerial application is prohibited

DO NOT SPRAY OVER TOP OF SORGHUM

Southwestern States Apply 0.2 to 0.4 quart per acre plus surfactant Apply as a directed postemergence spray after sorghum is 15 inches tall to control weeds 2 to 4 inches in height Use lower rate on broadleaf weeds up to 2 inches tall Use the higher rate on grasses up to 2 inches and broadleaf weeds up to 4 inches tall When the lower rate is used a second application may be made if needed Do not exceed 0.4 quart per acre Treatment of weeds under drought stress is usually ineffective

Do not replant treated areas to crops other than cotton or corn within 4 months following band treatment and 6 months following broadcast treatment as injury to subsequent crops may result

SUGARCANE

To prevent possible crop injury on new cane varieties tolerance to Diuron 4L should be determined prior to adoption as field practice Do not treat sugarcane growing on thinly covered sub-soils or rocky areas as crop injury may result Temporary chlorosis and stunting of the crop may result from application over emerged cane Application over emerged cane should be made only as directed below without the addition of a surfactant or crop oil concentrate To minimize chlorosis and stunting use directed postemergence sprays

Preemergence-Florida For high organic soils apply 1.6 to 3.2 quarts per acre as a broadcast or band spray prior to weed emergence after planting or after harvesting plant crop (for ratoon crop)

Postemergence-Florida Make one or two applications of 1.6 quarts per acre as needed by directed spray inter-row Alternatively for panicum control make up to three applications of 0.4 to 0.8 quart per acre plus surfactant as a directed spray after cane has emerged but before panicum exceeds 2 inches in height Adjust nozzles to spray beneath cane plants and between rows to cover weed foliage and to minimize contact of cane leaves with spray or drift Do not apply more than 4.8 quarts total per acre between planting (or ratooning) and harvest

Postemergence-Hawaii Apply 1.6 to 4.8 quarts per acre as a broadcast spray prior to weed emergence after planting or after harvesting plant crop or ratoon crop Sequential applications of 1.6 to 3 quarts per acre may be made as a broadcast spray over emerged cane or by directed spray inter-row

If weeds are emerged add a surfactant to the spray mixture at the rate of 1 to 2 quarts per 100 gallons and apply as a directed spray Do not apply more than three treatments nor more than 9.6 quarts per acre in Hawaii between planting (or ratooning) and harvest Treated areas may be replanted to sugarcane or pineapple 1 year after last application

Postemergence-Puerto Rico Apply 3.2 to 5.0 quarts per acre as a broadcast spray prior to weed emergence after planting or after harvesting plant crop or ratoon crop A second and third application of 1.6 to 3.2 quarts per acre may be made as a broadcast spray over emerged cane or by directed spray inter-row

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If weeds are emerged add a surfactant and apply as a directed spray
 Do not apply more than 3 treatments nor more than 8 quarts per acre in Puerto Rico between planting (or ratooning) and harvest Treated areas may be replanted to sugarcane or pineapple 1 year after last application
Louisiana, Texas Apply 2.4 to 3.0 quarts per acre Diuron 4L may be applied as a broadcast spray after planting and following the harvesting of sugarcane Diuron 4L may also be applied broadcast in late winter Application is best when made prior to weed emergence Diuron 4L may be applied as a post-directed spray immediately after the last cultivation Direct the spray application to the base (no more than 1/3 the plant height) of the sugarcane plants When small weeds (3 inches or less) are present at application add a surfactant at 0.25% v/v or crop oil concentrate at 1.0% v/v to the spray mix
Use Precautions Temporary leaf yellowing may occur following application Do not apply more than 6 quarts per acre broadcast per year Use proportionately less for band applications

TREE PLANTINGS

Aerial application is prohibited
Colorado, Montana, Nebraska, North Dakota, South Dakota, Wyoming Use only under established plantings 1 year or older of American elm caragana cottonwood Douglas fir green ash honeysuckle Ponderosa pine red cedar Russian olive and Siberian elm Use 2.0 to 4.0 quarts per acre Apply as a band 4-foot wide in the tree row (2 feet on each side of row) For example 1.6 ounces Diuron 4L treats 135 feet of tree row (2 feet on each side of row) at the rate of 4.0 quarts per acre Apply as a directed spray in the early spring before weeds emerge and before trees leaf out Do not apply to foliage of trees nor under trees growing in low areas as injury may result

Idaho, Oregon, Washington Apply Diuron 4L for control of weeds to aid in the establishment of hybrid poplar plantings Apply at 0.8 to 2.4 quarts per acre depending upon soil texture and organic matter content Use 0.8 to 1.6 quarts per acre on coarse textured soils and 1.6 to 2.4 quarts per acre on medium- to fine-textured soils Do not use on gravelly soils or on any soil having less than 0.5% organic matter as injury to trees may result **Injury may result from applications to poplar plantings grown on sandy soil with low organic matter with sprinkler irrigation** When applied in a band the application rate will be in proportion to the area banded on a per acre basis

Apply in late winter or early spring as a uniform broadcast spray before or after planting but prior to bud swell or as a directed spray after bud swell Apply before weeds emerge or after emergence while weeds are small Some rainfall or water is necessary to move Diuron 4L into the weed root zone before weeds become well established If weeds are present at time of treatment add a surfactant at 1 to 2 quarts per 100 gallons of spray solution

PREPLANT Take precautions to prevent treated soil (usually top 1 inch) from coming into contact with roots of trees during the planting process as injury may result

POST-PLANT (BROADCAST) It is best to wait until rain or irrigation has settled the soil around the newly planted trees before applying Diuron 4L If trees are dormant a broadcast application can be made

POST-PLANT (DIRECTED) If buds have started to swell use a directed spray pattern that prevents Diuron 4L from contact with trees as injury may result During the growing season (from bud swell to leaf drop) Diuron 4L may be applied (alone or with tank mix) between tree rows in shielded and directed sprays

Diuron 4L can be tank mixed with a glyphosate herbicide preplant and as a directed spray to broaden the spectrum of weeds controlled and improve post-emergence activity Use 0.8 to 2.4 quarts Diuron 4L plus glyphosate herbicide (according to label directions) depending upon soil type and weeds to be controlled Note There are several formulations of glyphosate herbicide Check the glyphosate herbicide label to verify that the intended use as a pre plant or post-directed spray on hybrid poplar plantations is allowed Avoid contact of glyphosate herbicide with foliage green stems trees or other desirable vegetation because severe damage or destruction may result

TRITICALE (Oregon only)

Aerial application is prohibited
 Crop injury may result where severe winter stress disease or insect damage follows application Winter-sensitive varieties may be less tolerant of Diuron 4L than winter-hardy varieties Crop injury may result from failure to observe the following Do not use on sand or loamy sand soils nor on gravelly or sandy loams with less than 1% organic matter Do not use on thinly covered or exposed subsoils (clay knolls) Do not treat triticale planted less than 1 inch deep Do not treat triticale where winter climatic conditions have caused heaving of plants Do not treat triticale plants lacking in vigor due to poor emergence insect damage disease high

alkalinity or other causes Do not apply after triticale has reached the boot stage of maturity Unless specified otherwise do not use with surfactants or nitrogen solution Do not replant treated areas to any other crop within one year after last treatment (except as noted) as injury to subsequent crops may result

East of Cascade Range Where average annual rainfall exceeds 16 inches make a single application at the rate of 0.8 to 1.2 quarts per acre For early fall planted triticale (seeded before September 10) apply 3 to 6 weeks after planting but before weeds are 3 to 4 inches tall Treatment after October 1 has generally given best results Do not apply after soil freezes in the fall Do not apply to triticale planted in late October until the following spring For spring treatment apply as soon as triticale starts to grow Treatment made prior to April 10 will usually give good results, provided weed growth is less than 4 inches tall Application later than May 1 may give poor results Alternatively make a single application of 0.4 to 0.8 quart Diuron 4L plus 0.25 lb bromoxynil per acre as a tank mix in either the fall after triticale has emerged but before soil freezes or in the spring as soon as soil thaws Apply before weeds are more than 2 inches tall or across

Where average annual rainfall is 10 to 16 inches following fall planting make a single application of 0.8 to 1.2 quarts per acre where sufficient moisture is available to germinate triticale seed Apply before soil freezes and before weeds are two inches tall Application later than March 1 may give poor results If fall-planted triticale fails to grow due to winter kill or adverse growing conditions after fall treatment only fields treated before November 1 may be replanted to spring triticale Spring triticale should not be planted before April 1 and only after deep discing and plowing to a depth of 4 to 6 inches prior to planting Do not make a second application during the same crop year or injury to the crop may result

West of Cascade Range Make a single application of 1.2 to 1.6 quarts per acre as soon as possible after planting If triticale and weeds have emerged apply before weeds are 3 to 4 inches tall Alternatively apply a tank mixture of Diuron 4L plus bromoxynil as detailed above in East of Cascade Range section

Other areas Make a single application in the spring as soon as triticale (fall planted) starts to grow and before weeds are 2 inches tall Application later than May 1 may give poor results

WALNUT (ENGLISH)

Aerial application is prohibited

California, Oregon, Washington Use only under trees which have been established in the orchards for at least 1 year As an initial treatment apply 2.2 quarts per acre after the orchard has been laid-up in final form (no-tillage program) in late fall or early winter Retreat annually with 1.6 to 2.2 quarts per acre In California apply 1.6 to 3 quarts per acre Alternatively apply 1.6 quarts per acre in October or November and repeat at the same rate in March or April

Do not use on sand loamy sand gravelly soils or exposed sub-soils nor where organic matter is less than 1% Do not graze livestock in treated orchards and groves

Do not make more than two applications per year When using Diuron 4L in a sequential treatment program allow a minimum of 150 days between applications In all areas except California the maximum application rate is 2.2 quarts per acre and the maximum application rate per year is 3.2 quarts per acre In California only the maximum application rate is 3 quarts per acre and the maximum application rate per year is 3 quarts per acre

WHEAT (WINTER)

Crop injury may result where severe winter stress disease or insect damage follows application Winter-sensitive varieties may be less tolerant of Diuron 4L than winter hardy varieties Crop injury may result from failure to observe the following Do not use on sand or loamy sand soils nor on gravelly or sandy loams with less than 1% organic matter Do not use on thinly covered or exposed sub-soil areas (clay knolls) Do not treat wheat planted less than 1-inch deep Do not treat wheat where winter climatic conditions have caused heaving of plants Do not treat wheat plants lacking in vigor due to poor emergence insect damage disease high alkalinity or other causes Do not apply after wheat has reached the boot stage of maturity Unless specified otherwise do not use with surfactants or nitrogen solution Do not replant treated areas to any other crop within 1 year after last treatment (except as noted) as injury to subsequent crops may result

Idaho, Oregon, Washington-East of Cascade Range Where average annual rainfall exceeds 16 inches make a single application of 0.8 to 1.2 quarts per acre Fall Treatment For early fall planted wheat (seeded before September 10) apply 3 to 6 weeks after planting but before weeds are 3 to 4 inches tall Treatment after October 1 has generally given best results Application should not be made after soil freezes in the fall Wheat planted in late October should not be treated until the following spring Spring Treatment Apply as soon as wheat starts to

grow Treatment made prior to April 10 will usually give good results provided weed growth is less than 4 inches tall Application later than May 1 may give poor results

Alternatively make a single application of 0.4 to 0.8 quart Diuron 4L plus 0.25 pound bromoxynil per acre as a tank mixture in either the fall after wheat has emerged but before soil freezes or in the spring as soon as soil thaws Apply before weeds are more than 2 inches tall or across Where average annual rainfall is 10 to 16 inches following fall planting make a single application of 0.8 to 1.2 quarts per acre when sufficient moisture is available to germinate wheat seed Apply before soil freezes and weeds are 2 inches tall Application later than March 1 may give poor results

Note If fall-planted wheat fails to grow due to winter kill or adverse growing conditions after fall treatment only fields treated before November 1 may be replanted to spring wheat Spring wheat should not be planted before April 1 and only after deep discing and plowing to a depth of 4 to 6 inches prior to planting Do not make a second application during the same crop year or injury to the crop may result

Oregon, Washington-West of Cascade Range Make a single application of 1.2 to 1.6 quarts per acre as soon as possible after planting If wheat and weeds have emerged apply before weeds are 3 to 4 inches tall Alternatively apply a tank mixture of Diuron 4L plus bromoxynil as detailed above in **East of Cascade Range** section

Other Areas of Oregon, Washington Make a single application in the spring as soon as wheat (fall-planted) starts to grow and before weeds are 2 inches tall Application later than May 1 may give poor results

Kansas, Oklahoma, Texas Do not use on sand or sandy loam soils Use 0.8 quart per acre on silt and silt loam soils and 1.2 to 1.6 quarts per acre on clay clay loam and silty clay loam soils

Central Plains, Midwest Use 0.8 to 1.6 quarts per acre

Northeast Use 0.8 to 1.2 quarts per acre

**NONCROP WEED CONTROL
SPECIFIC DIRECTIONS**

Mix specified amount of Diuron 4L into volume of water necessary to obtain uniform coverage If a surfactant is used dilute with 10 parts of water and add as last ingredient to nearly full tank Diuron 4L must be kept in suspension at all times Agitate by mechanical or hydraulic means in the spray tank If bypass or return line is used it should terminate at bottom of tank to minimize foaming Openings in screens should be equal to or larger than 50 mesh

Note Diuron 4L may be applied by either ground application equipment or by air application equipment (helicopter only) for the control of various weeds and grasses in rights-of-way sites When making aerial applications apply in sufficient water volume to ensure thorough coverage of the site to be treated generally 3 gallons of water per acre are sufficient

Do not exceed an application rate of 8 quarts per acre of formulated product except in areas of high rainfall (more than 40 inches per year) or dense vegetation (more than 90% weed ground cover) In areas with high rainfall or dense vegetation a maximum application of 12 quarts per acre of formulated product is allowed Do not make more than two applications per year If products containing diuron are used in a sequential program allow a minimum of 90 days between applications

General Noncrop Weed Control To control most annual weeds for an extended period of time on uncultivated nonagricultural areas (such as airports highway utility and railroad rights-of-way including switch yards and storage yards sewage disposal areas) uncultivated agricultural areas (noncrop producing which includes farmyards fuel storage areas fence rows barrier strips) industrial sites (outdoor such as lumberyards pipeline and tank farms) apply 4 to 12 quarts per acre of formulated product to control annual weeds including

Broadleaves		
4 to 12 quarts/acre		
Ageratum	Knawel	Ragweed
Chickweed	Kochia	Sesbania
Cocklebur	Lambsquarter	Shepherdspurse
Corn Speedwell	Marigold	Sicklepod
Corn Spurry	Mexican Clover	Smartweed Annual

Dayflower	Morningglory Annual	Sowthistle Annual
Dogfennel	Pennycress	Spanishneedles
Fiddleneck (Amsinckia)	Pigweed	Tansymustard
Flora s Paintbrush	Pineappleweed	Velvetleaf (Buttonweed)
Gromwell	Pokeweed	Wild Buckwheat
Groundcherry Annual	Prickly Lettuce	Wild Lettuce
Hawksbeard	Prickly Sida (Teaweed)	Wild Mustard
Horsenettle	Purslane	Wild Radish
Horseweed	Rabbit Tobacco	
Grasses		
4 to 6 4 quarts/acre		
Barnyardgrass (Watergrass)	Orchardgrass	Ryegrass Annual
Bluegrass Annual	Peppergrass	Sandbur
Crabgrass	Quackgrass	Seedling Johnsongrass
Foxtail	Rattail Fescue	Velvetgrass
Kyllinger (Kyllinga)	Red Sprangletop	Vernalgrass Sweet Annual
Lovegrass Annual	Ricegrass	
6 4 to 12 quarts/acre		
Guineagrass	Maidencane	Pangolagrass

Irrigation and drainage ditches Apply 4 to 12 quarts per acre to control most annual weeds as shown above. Apply only when water is not in the ditch. For irrigation ditches, apply during the noncrop season and when ditch is not in use. To avoid crop injury, it is essential to minimize movement of Diuron 4L in irrigation water. The herbicide must be fixed in the soil by moisture. Apply before expected seasonal rainfall, if possible when soil in the ditch is still moist. Following treatment, if rainfall has not totaled at least 4 inches, fill ditch with water and allow to stand for 72 hours. Drain off any waste water remaining before using ditch. Do not treat any ditch area into which roots of trees or other desirable plants may extend as injury may result.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE Store product in original container only, away from other pesticides, fertilizer, food, or feed.

PESTICIDE DISPOSAL Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable Container (five gallons or less) 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **DO NOT REUSE EMPTY CONTAINER**

Nonrefillable Container (greater than five gallons) 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. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Refillable Container (greater than 55 gallons) Refillable container. Refill this container with diuron only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix

tank Fill the container about 10 percent full with water Agitate vigorously or recirculate water with the pump for 2 minutes Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times For final disposal offer for recycling or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use conditions of warranties and limitations of liability before using this product If terms are not acceptable return the unopened product container at once

By using this product user or buyer accepts the following **CONDITIONS DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY**

CONDITIONS The directions for use of this product are believed to be adequate and must be followed carefully However it is impossible to eliminate all risks associated with the use of this product Crop injury ineffectiveness or other unintended consequences may result because of such factors as weather conditions presence of other materials or the manner of use or application all of which are beyond the control of Makhteshim Agan of North America Inc All such risks shall be assumed by the user or buyer

DISCLAIMER OF WARRANTIES To the extent consistent with applicable law Makhteshim Agan of North America Inc makes no other warranties express or implied of merchantability or of fitness for a particular purpose or otherwise that extend beyond the statements made on this label No agent of Makhteshim Agan of North America Inc is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein To the extent consistent with applicable law Makhteshim Agan of North America Inc disclaims any liability whatsoever for special incidental or consequential damages resulting from the use or handling of this product

LIMITATIONS OF LIABILITY To the extent consistent with applicable law the exclusive remedy of the user or buyer for any and all losses injuries or damages resulting from the use or handling of this product whether in contract warranty tort negligence strict liability or otherwise shall not exceed the purchase price paid or at Makhteshim Agan of North America Inc s election the replacement of product

Diuron 4L (66222-54) (notif to EPA 03-24-11) (notif to EPA 3-29-12)