

Reg # 352-441

PM-25

196

REGISTRATION CODE 0000-000
PACKAGE SIZE
6 - 1 GALLON JUGS/CARTON

ACCEPTED
FEB 5 1961
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250
EPA Reg. No. 352-441

ASSURE®

HERBICIDE
EMULSIFIABLE CONCENTRATE

ACTIVE INGREDIENT
2-[4-(6-chloro-2-quinoxalinyloxy)phenoxy]propionic acid, ethyl ester 9.5%
INERT INGREDIENTS 90.5%
TOTAL 100%

THIS PRODUCT CONTAINS THE TOXIC INERT INGREDIENT PHENOL.
Contains petroleum distillates.
*Equivalent to 0.8 pounds ai per gallon.

EPA Reg. No. 352-441

U.S. Pat. 4,629,493

KEEP OUT OF REACH OF CHILDREN

CAUTION

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION! MAY IRRITATE EYES, NOSE, THROAT AND SKIN.

Avoid breathing vapors or spray mist. Avoid contact with skin, eyes and clothing. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if skin irritation persists. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Keep away from heat, sparks, and open flames. Keep container closed.

IMPORTANT

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply or drain or flush equipment on or near desirable trees or 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. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides, and seeds during storage. Thoroughly clean application equipment immediately after use.

Use caution when handling "Assure" Herbicide as accidental spills or splashes may harm the finish on painted equipment.

DIRECTIONS FOR USE

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

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

"Assure" should be used only in accordance with recommendations on this label or in separately published Du Pont recommendations.

Du Pont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Du Pont

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GENERAL INFORMATION

"Assure" is a selective postemergence herbicide recommended for the control of annual and perennial grasses in soybeans and non-crop areas. "Assure" does not control sedges or broadleaf weeds.

Applied at recommended rates and timings "Assure" Herbicide will control emerged grasses. Subsequent flushes of grass weeds require additional treatment.

Most grass crops, including wheat, barley, rye, oats, sorghum, rice and corn are highly sensitive to "Assure" Herbicide and all direct or indirect contact (such as spray drift) should be avoided.

When not in use, keep container closed to prevent evaporation or loss through spillage.

BIOLOGICAL ACTIVITY

"Assure" is a systemic herbicide which is rapidly absorbed and translocated from the treated foliage to the roots and other growing points of the plant. Treated plants show reduced growth and loss of competitiveness. Early chlorosis/necrosis of the younger plant tissues is followed by a progressive degradation of the remaining foliage. In general, these symptoms are observed in one to three weeks depending on the grass species treated and the environmental conditions.

APPLICATION INFORMATION - GENERAL

TIMING TO WEEDS

Apply "Assure" Herbicide postemergence to actively growing grasses according to the rate charts below. Applications made to grass plants stressed due to insufficient moisture or cold temperatures, or to grass plants exceeding the stage of growth recommended in the rate table may result in unsatisfactory control.

In arid regions where irrigation is used, apply "Assure" Herbicide as soon as possible after an irrigation.

GEOGRAPHIC RECOMMENDATIONS

The grasses controlled by "Assure" and the rates needed for control differ by geographic location. A description of the area boundaries is as follows:

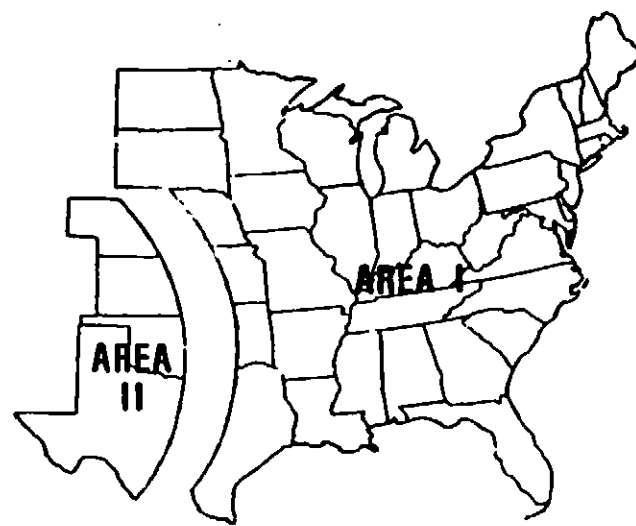
AREA I -- (Areas with Adequate Rainfall)

Encompasses most of the eastern half of the United States. It is characterized as having adequate rainfall to support crop production and generally does not require irrigation during the growing season. States included in area I are; Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas (broadly defined as east of Interstate 135), Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska (broadly defined as east of State Highway 183), New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma (broadly defined as east of Interstate 35), Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas (broadly defined as east of Interstate 35), Vermont, Virginia, West Virginia, and Wisconsin.

AREA II -- (Arid Conditions)

Encompasses the western portion of four states west of the Mississippi river. It is characterized as having arid conditions and in many locations requires irrigation during the growing season.** States included in area II are; Kansas (broadly defined as west of Interstate 135), Nebraska (broadly defined as west of State Highway 183), Oklahoma (broadly defined as west of Interstate 35) and Texas (broadly defined as west of Interstate 35).

** Note: Applications of "Assure" herbicide should be made to actively growing grasses. If a field is to receive an irrigation, wait until after the irrigation to apply "Assure" Herbicide.



ENVIRONMENTAL CONDITIONS

Conditions conducive to healthy, actively growing plants optimize the performance of "Assure". Applications made to grasses which are stressed due to insufficient moisture may result in unsatisfactory control. Grass weeds under this condition frequently become less sensitive to herbicide activity. Delay application until the stress passes.

Do not apply if rain is expected within 1 hour of application as control may be unsatisfactory.

SPRAY ADDITIVES

ALWAYS INCLUDE A SPRAY ADJUVANT WITH APPLICATIONS OF "ASSURE". Unless otherwise directed, select one of the adjuvants listed below.

Ground Applications: Crop oil concentrate at a rate (concentration) of 1.0% v/v (4 quarts per 100 gallons of spray solution).

OR

Nonionic surfactant at a rate (concentration) of 0.25% v/v (1 quart per 100 gallons of spray solution).

Aerial Application: Crop oil concentrate at a rate (concentration) of 0.5% v/v (2 quarts per 100 gallons of spray solution).

OR

Nonionic surfactant at a rate (concentration) of 0.25% v/v (1 quart per 100 gallons of spray solution).

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Petroleum oil concentrates should be of good quality and contain a minimum of 15% emulsifier/surfactant. Nonionic surfactants should contain at least 80% active ingredient. Do not use vegetable (crop origin) oils as spray adjuvant or carrier with "Assure". USE ONLY EPA APPROVED OIL CONCENTRATES AND SURFACTANTS.

CULTIVATION

Cultivation during or within 7 days before or 7 days after an application of "Assure" may result in unsatisfactory control. Cultivation may put grasses under stress by pruning roots, thus making control more difficult to obtain.

ROTATIONAL CROP GUIDELINES

Do not rotate to crops other than soybeans within 120 days after application.

APPLICATION EQUIPMENT - GENERAL

SPRAY TANK PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using "Assure". Follow the cleanup procedures specified on the label of the product previously sprayed.

GROUND APPLICATION (See SPRAY DRIFT)

Broadcast Application: Use flat fan or hollow cone nozzles at 25-60 psi. Do not use flood, rain drop, whirl chamber or other nozzle types which produce coarse, large spray droplets or controlled droplet applicator (CDA) type nozzles as poor weed control or excessive spray drift may result. Use a minimum of 10 gallons of water per acre in Area I (adequate rainfall*). Use a minimum of 15 gallons of water per acre in Area II (arid conditions*). Do not exceed 40 gallons of water per acre in Area I or Area II. For proper spray coverage adjust the boom and nozzle height according to the specifications listed by the nozzle manufacturer.

Band Applications: For band application, use proportionately less. Carefully calibrate the band applicator to not exceed the labeled rate or injury may occur. To avoid improper use of band application equipment carefully follow the manufacturers instructions for nozzle types, nozzle orientation, distance of the nozzles from the crop and weeds, spray volumes, calibration and spray pressure. For additional information on row banders see Du Pont's bulletin, "Application Accuracy - Row Banders".

AERIAL APPLICATION (See SPRAY DRIFT)

Use nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage. Use a minimum of three gallons of water per acre in Area I (adequate rainfall*) Use a minimum of 5 gallons of water in Area II (arid conditions*). Do not apply during a temperature inversion condition, when winds are gusty, or when other conditions will favor poor coverage and/or off target spray movement.

* A description of the area boundaries is included.

SPRAYER CLEANUP

Thoroughly clean application equipment immediately after use. Flush tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Failure to thoroughly clean the equipment may result in injury to subsequently sprayed grass crops.

When "Assure" is tank mixed with other pesticides all sprayer cleanup procedures should be examined and the most rigorous cleanup procedure should be followed.

SPECIFIC USES - SOYBEANS

RESTRICTIONS

Do not graze treated fields or harvest for forage or hay.

Do not apply more than 40 ounces of product per acre per season.

CROP RESPONSE

Minor leaf spotting may occur to sprayed foliage under certain environmental conditions. New growth and crop yields are unaffected.

TIMING OF APPLICATIONS

"Assure" may be applied to soybeans any time prior to 80 days before harvest. Do not apply after pod set.

Best results are obtained when "Assure" is applied to grasses that are young and actively growing. Applications made to grasses that are larger than the size indicated below, or to grasses under stress may result in unsatisfactory control.

WEEDS CONTROLLED/RATE CHARTS

AREA I (AREAS WITH ADEQUATE RAINFALL) (See GEOGRAPHIC RECOMMENDATIONS)		
ANNUAL GRASSES	SIZE AT APPLICATION (INCHES)	"ASSURE" OZ PRODUCT/A
Volunteer Corn (Zea mays)	6-18	10
Shattercane (Sorghum bicolor)	6-12	10
Seedling Johnsongrass (Sorghum halepense)	2-8	10
Wild Proso Millet (Panicum miliaceum)	2-6	10
Crowfootgrass (Dactyloctenium aegyptium)	2-6	14
Fall Panicum (Panicum dichotomiflorum)	2-6	14
Forbals		
Giant (Setaria faberi)	2-8	14
Green (Setaria viridis)	2-4	14
Yellow (Setaria lutescens)	2-4	14
Bristly (Setaria verticillata)	2-4	14
Goosegrass (Eleusine indica)	2-6*	14
Witchgrass (Rottboellia exaltata)	2-8	14
Field Sandbur (Cenchrus ciliaris)	2-6	14
Sprangletop (Leptochloa filiformis)	2-6	14
Volunteer Cereals		
Wheat (Triticum aestivum)	2-6	14
Barley (Hordeum vulgare)	2-6	14
Oats (Avena sativa)	2-6	14
Rye (Secale cereale)	2-6	14
Wild Oat (Avena fatua)	2-6	14
Witchgrass (Panicum capillare)	2-6	14
Woolly cupgrass (Eriochloa villosa)	2-4	14
Barnyardgrass (Echinochloa crus-galli)	2-6	16
Broadleaf signalgrass (Brachiaria platyphylla)	2-6	16
Crabgrass		
Large (Digitaria sanguinalis)	2-6*	16
Smooth (Digitaria sp. chaemum)	2-6*	16
Junglerice (Echinochloa colonum)	2-6	16
Red Rice (Oryza sativa)	1-4	16
Texas panicum (Panicum texarum)	2-4	16
PERENNIAL GRASSES		
Bermudagrass (Cynodon dactylon)	3" tall (or up to 6" runners)	20
Rhizome Johnsongrass (Sorghum halepense)	10-24"	20
Quackgrass (Agropyron repens)	6-10"	20
Wirestem Muhly (Muhlenbergia frondosa)	4-8"	16

If regrowth of perennial grasses occurs, make another application of "Assure" using 14 ounces product/A timed to grass weed sizes as follows: Bermudagrass (3" tall or up to 6" runners), Rhizome Johnsongrass (6"-10"), Quackgrass (4"-8"), Wirestem Muhly (4"-8"). Do not exceed 40 ounces of product per acre per year.

* Length of lateral growth



AREA II (ARID CONDITIONS)
(See GEOGRAPHIC RECOMMENDATIONS)

	SIZE AT APPLICATION (INCHES)	"ASSURE" OZ PRODUCT/A
ANNUAL GRASSES		
Volunteer Corn (<i>Zea mays</i>)	6-10	14
Shattercane (<i>Sorghum bicolor</i>)	6-10	14
Seedling Johnsongrass (<i>Sorghum halepense</i>)	2-6	14
Field Sandbur (<i>Cenchrus incertus</i>)	2-6	14
Barnyardgrass (<i>Echinochloa crus-galli</i>)	2-4	16
Broadleaf Signalgrass (<i>Brachiaria platyphylla</i>)	2-4	16
Large Crabgrass (<i>Digitaria sanguinalis</i>)	2-4 ^a	16
Foxtails		
Green (<i>Setaria viridis</i>)	2-4	16
Yellow (<i>Setaria kutescens</i>)	2-4	16
Jungle rice (<i>Echinochloa colobum</i>)	2-4	16
Texas Panicum (<i>Panicum texanum</i>)	2-4	20
Volunteer cereals		
Wheat (<i>Triticum aestivum</i>)	2-4	16
Barley (<i>Hordeum vulgare</i>)	2-4	16
Oats (<i>Avena sativa</i>)	2-4	16
Rye (<i>Secale cereale</i>)	2-4	16

PERENNIAL GRASSES

Bermudagrass (<i>Cynodon dactylon</i>)	3" tall (or up to 6" runners)	24
Rhizome Johnsongrass (<i>Sorghum halepense</i>)	10-16"	24

If regrowth of perennial grasses occurs, make another application of "Assure" using 16 ounces product/A timed to grass weed sizes as follows: Bermudagrass (3" tall or up to 6" runners) Rhizome Johnsongrass (6"-10"). Do not exceed 40 ounces of "Assure" per acre per season.

^a Length of lateral growth

INFORMATION ON ANTAGONISM

Tank mixes of "Assure" with post broadleaf herbicides have shown some reduction in control of most grass species and failure to control certain other grass species which would otherwise be controlled when "Assure" is applied alone. Activity of the post broadleaf herbicide in the tank mixture is not affected.

When tank mixing "Assure" with "Classic", "Pinnacle", "Classic" + "Pinnacle" or "Basagran" antagonism can be minimized by increasing the recommended rate of "Assure" (as listed in the **GRASSES CONTROLLED/RATE CHART** section) by 4 ounces with the following exceptions:

GROUP I

Volunteer Corn	Giant Foxtail
Shattercane	Seedling Johnsongrass
	Rhizome Johnsongrass

If the above grasses are the target grasses to be controlled, select the rate of "Assure" listed in the **GRASSES CONTROLLED/RATE CHART** section. If grasses other than those listed above are present, increase the rate of "Assure" by 4 ounces.

GROUP II

Barnyardgrass	Bermudagrass
Broadleaf Signalgrass	Large Crabgrass
Quackgrass	Red Rice
Smooth Crabgrass	Texas Panicum
Woolly Cupgrass	Wirestem Muhly
	Yellow Foxtail

The grasses listed in **GROUP II** will not be controlled by "Assure" if applied in a tank mix with post broadleaf herbicides. To obtain control of these grasses apply "Assure" as a sequential treatment, either 24 hours before or 7 days following an application of a postemergence broadleaf herbicide.

NOTE: Do not apply "Assure" in a tank mix with a postemergence broadleaf herbicide in **AREA II (arid conditions)**, as defined on this label, as grass control will not be satisfactory. If both grass and broadleaf weed control is desired, make separate applications.

SEQUENTIAL APPLICATIONS WITH POST BROADLEAF HERBICIDES

NOTE: Reduction in grass control is possible when "Assure" is applied immediately prior to or sequentially after an application of a post broadleaf herbicide. Observe the following recommendations:

- After applying "Assure", wait a minimum of 24 hours before applying a post broadleaf herbicide.
- In fields treated with a post broadleaf herbicide, do not apply "Assure" until grass plants begin to develop new leaves (generally 7 days after the post broadleaf herbicide application).

TANK MIX APPLICATIONS

Do not tank mix "Assure" Herbicide with any pesticide or spray adjuvant except as directed in this or other supplemental labeling.

"Assure" may be tank mixed with the following postemergence broadleaf herbicides, "Classic"1, "Pinnacle"1, "Classic" + "Pinnacle", or "Basagran"2 in soybeans. Refer to the "Classic", "Pinnacle" or "Basagran" labels for information regarding rates, weeds controlled, use restrictions, rotational cropping recommendations, sprayer cleanup use precautions, and other information. The most restrictive provision on either label will apply.

INFORMATION ON SPRAY ADJUVANTS

When tank mixing "Assure" with "Classic", "Pinnacle" "Classic" + "Pinnacle" or "Basagran" use of a spray adjuvant is required. Select one of the following:

"Assure" + "Classic": For ground applications use nonionic surfactant at a rate of 0.25% v/v or crop oil concentrate at a rate of 1.0% v/v. For aerial applications use nonionic surfactant at a rate of 0.25% v/v or crop oil concentrate at a rate of 0.5% v/v.

"Assure" + "Pinnacle": For ground or aerial applications use nonionic surfactant at a rate of 0.125% to 0.25% v/v. USE OF THE HIGHER RATE OF NONIONIC SURFACTANT PARTICULARLY UNDER HOT HUMID CONDITIONS MAY INCREASE TEMPORARY CROP INJURY. DO NOT USE CROP OIL CONCENTRATE OR DASH.

OR

"Assure" + "Pinnacle" + "Classic"

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"Assure" + "Basagran": For ground applications use crop oil concentrate at a rate of 1 quart per acre. For aerial applications use crop oil concentrate at a rate of 1 pint per acre.

Mix the selected rate of "Assure" (1.5 - 2.0 pints per acre) in the per acre spray volume chosen (10 - 40 gals); add a nonphytotoxic petroleum oil concentrate at 1% volume/volume (4 quarts per 100 gallons of water) to the spray mix. Do not use vegetable oils.

SEQUENTIAL APPLICATIONS FOR JOHNSONGRASS CONTROL

For control of rhizome johnsongrass in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, Tennessee, Virginia, and West Virginia, "Assure" may be applied at a reduced rate when applied in a sequential application program.

Apply "Assure" at a rate of 10 ounces per acre when johnsongrass is 10 to 24 inches tall. Apply the sequential treatment of "Assure" at a rate of 10 ounces per acre when johnsongrass regrowth has reached 6 to 10 inches in height.

Do not apply "Assure" in a tank mix with post broadleaf herbicides when using this reduced rate sequential application program.

SPOT/SMALL AREA SPRAY RECOMMENDATIONS IN SOYBEANS (AREAS I AND II)

Make a 3/4 percent solution of "Assure" in water for spot treatment of annual species such as volunteer corn or perennial species such as rhizome johnsongrass. The spray solution should include a nonphytotoxic oil concentrate at 1% v/v or a nonionic surfactant at 0.25% v/v. Treat plants on a spray-to-wet basis insuring good coverage.

Desired Spray Volume	"ASSURE" OZ		Crop Oil Concentrate	OR	Nonionic Surfactant
	Product	PLUS			
1 gallon	1.0 fl oz (2 tbsp)		1.25 fl oz (2.5 tbsp)		0.3 fl oz (2 tsp)
25 gallons	24.0 fl oz (3 cups)		32 fl oz (1 quart)		8.0 fl oz (1 cup)
50 gallons	48 fl oz (1.5 quarts)		64 fl oz (2 quarts)		16 fl oz (1 pint)
100 gallons	96 fl oz (3 quarts)		128 fl oz (4 quarts)		32 fl oz (1 quart)

Use flat fan nozzles and thoroughly cover the weed foliage.

NOTE: Do not allow spray to drift on to adjacent crops as injury to plants other than soybeans will likely occur. (see **SPRAY DRIFT**)

SPRAY DRIFT

Do not allow spray from either ground or aerial equipment to drift onto adjacent crops or land, as injury to other plants may occur. When spraying adjacent to crops other than soybeans, minimize the spray drift potential. Follow these practices to minimize spray drift:

- o Stop spraying if wind speed becomes excessive. Spray drift can occur at wind speeds less than 10 MPH. Do not spray if sensitive crops are downwind. **DO NOT SPRAY IF WINDS ARE GUSTY.**
- o High temperatures, drought, and low relative humidity increase the possibility of spray drift. **EXTREME CAUTION MUST BE USED WHEN THESE CONDITIONS ARE PRESENT AND SENSITIVE CROPS OR PLANTS ARE NEARBY, REGARDLESS OF WIND SPEED.**
- o Do not apply when a temperature inversion exists. An inversion is characterized by low air movement and an increase in air temperature with an increase in altitude. In humid regions, a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. Smoke-producing devices on aircraft are recommended. If not sure whether inversion conditions are present, consult with local weather services before making an application.
- o Drift from aerial or ground equipment may be further reduced by:
 1. Using large droplet size sprays to minimize drift. Do not use nozzles that produce very small droplets, such as airblast-type nozzles. Nozzles should be oriented at an angle between straight down and straight back for ground applications. For aerial applications orient nozzles straight back along the windstream. If using flood-type nozzles on aircraft, orient them so spray is produced in direction of the airstream.
 2. Increasing volume of spray mix per acre (for example, 10 GPA by air, 25 GPA by ground) by using higher flow rate nozzles
 3. Reducing pressure (PSI). Do not exceed 40 psi when applying "Assure". (Vehicle speed must also be reduced to maintain spray mix volume per acre.) Consult manufacturer's catalogs for details on correct calibration
 4. Apply as close to target plants as possible while still maintaining a good spray pattern.

SPECIFIC USES - NON-CROP AREAS

"Assure" is recommended for postemergence useage to control certain grasses on non-crop sites such as fence rows, roadsides, equipment storage areas, and other similar areas.

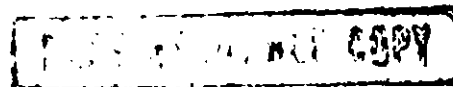
Apply 1.5 to 2.0 pints of "Assure" per acre to actively growing grasses as follows:

Quackgrass - Apply when plants are 6 to 10 inches tall. If regrowth occurs, make a second application.

Wild Oats - Apply when plants are 2 to 6 inches tall.

Additional postemergence treatments are required to control new emerging plants.

Use a spray volume of no less than 10 nor more than 40 gallons of water per acre



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STORAGE AND DISPOSAL

STORAGE: Do not subject to temperatures below 32 degrees F. Do not contaminate water, food or feed by storage or disposal. Keep from contact with fertilizers, insecticides, fungicides, and seeds during storage.

PRODUCT DISPOSAL: Pesticides, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to applicable Federal, State or local procedures.

CONTAINER DISPOSAL: Triple rinse (or equivalent) and dispose of in a sanitary landfill or by incineration if allowed by State and local authorities.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purposes stated on such label only when used in accordance with the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks are assumed by the buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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