

THIDIAZURON	GROUP	7	HERBICIDE
DIURON	GROUP	7	HERBICIDE



Cotton Defoliant

For Agricultural Use Only

ACTIVE INGREDIENTS:

Thidiazuron: N-phenyl-N'-1,2,3-thiadiazol-5-ylurea12.0%
 Diuron: 3-(3,4-dichlorophenyl)-1,1-dimethylurea6.0%

OTHER INGREDIENTS:82.0%

TOTAL:100.0%

Contains 1 lb Thidiazuron and 0.5 lb Diuron per gallon

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

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

See Label Booklet for **FIRST AID** and **PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
 For Medical Emergencies Only, Call (877) 325-1840

EPA Reg. No. 228-678

Manufactured for
 Nufarm Americas Inc.
 11901 S. Austin Avenue
 Alsip, IL 60803



Net Contents
2.5 Gal.
(9.46 L)



FIRST AID

If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact (877) 325-1840 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION / PRECAUCIÓN

Harmful if swallowed, absorbed through skin or if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All pilots, flaggers, and groundboom applicators must wear:

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

In addition to the above, groundboom applicators must also wear waterproof gloves.

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

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

See Engineering Controls for additional requirements.

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

Engineering 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)].

Flaggers 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 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, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate. Do not apply when weather conditions favor drift from the target area. Apply this product only as specified on this label.

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

This chemical has properties and characteristics associated with chemicals detected in groundwater. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

In case of spillage, cover with an absorbent such as soda ash, lime, clay, or sawdust. Sweep up and bury. Wash area thoroughly with detergent and water.

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 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, waterproof gloves, and shoes plus socks.

RUNOFF PREVENTION: To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

POLLINATOR ADVISORY STATEMENT: This product may adversely impact the forage and habitat of local pollinators, including monarch butterfly (and its larvae), birds, or bats if it reaches non-target areas. Protect pollinators by following label directions to minimize spray drift.

PRODUCT INFORMATION

This product is a suspension concentrate. It is used as a defoliant to aid in preparing cotton for harvest and can be used effectively under warm and cool weather conditions.

SPRAY DRIFT MANAGEMENT

- Use a nozzle that produces medium spray or coarser spray according to ASABE (ANSI/ASAE) standard S572.1 MAR2009 for both ground and aerial application.
- When using ground application, apply with nozzle height no more than 2 feet above the ground or crop canopy.
- For both aerial and ground application, do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not spray via ground or aerial application equipment during temperature inversions.
- When applying aerially:
 - Do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.
 - The spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
 - When applying to crops via aerial application equipment, use ½ swath displacement upwind at the downwind edge of the field.
 - Nozzles must be oriented so the spray is directed toward the back of the aircraft.

SPRAY DRIFT ADVISORIES

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

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. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size - Ground Boom

- *Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger volumes.*
- *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 A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.***
- *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.*

Controlling Droplet Size - Aircraft

- *Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.*
- *Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream with produce larger droplets than other orientations. **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.***
- *Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.*
- *Boom Length - Longer booms increase drift potential. Therefore a shorter boom length is recommended.*
- *Application Height - Application more than 10 ft. above the canopy increases the potential for spray drift.*

BOOM HEIGHT

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

Note: Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

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

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

USE PRECAUTIONS

- A rain event occurring within 12 hours of application may reduce the effectiveness of this product.
- A reduction in the desired amount of defoliation and/or in the inhibition of plant growth may be observed when this product is applied under extremely cool or adverse conditions.
- Spray drift to non-target crops can cause crop injury or defoliation.
- Some crops (e.g., citrus, lettuce, cantaloupes, and others) are sensitive to this chemical and additional care needs to be exercised if these crops are present in adjacent fields.
- Mixtures with organophosphates can increase non-target crop phytotoxicity.

USE RESTRICTIONS

- Do not apply this product through any type of irrigation system.
- Do not feed foliage from treated cotton plants or gin trash to livestock.
- Do not use immature crops for food or feed.
- Do not apply more than 16 fl oz (1 pint) of this product (0.125 lb Thidiazuron or 0.0625 lb Diuron) per acre per year.
- Do not make more than 2 applications of this product per year.
- Do not harvest cotton seed less than 5 days after the last application.
- The minimum retreatment interval of 21 days is required only as the interval between an herbicidal application of diuron and a subsequent defoliant application of this product. There is no minimum retreatment interval between 2 applications of this cotton defoliant product.

Additional drift reduction practices to reduce the potential for off-site spray drift to non-target crops sensitive to this product:

- Do not make ground applications of this product within 100 feet of growing lettuce.
- Do not make aerial application of this product within 1/2 mile of growing lettuce.
- Citrus Areas in the Rio Grande Valley of Texas: Do not make aerial applications of this product when citrus are in flush (burst of new growth, as in springtime) within 5 miles downwind of the point of application. Do not make ground applications of this product when citrus are in flush within 1/2 mile downwind of the application point.

ROTATIONAL CROP RESTRICTIONS

Refer to the following table for the amount of time which must elapse before planting crops in fields previously treated with this product. Cover crops: If small grains are planted earlier than 2 months after a product application or small grains are planted between the cotton plant rows which were treated with this product, then these crops can only be used as cover crops. Do not harvest the grain crops for food or feed.

Plantback Crop(s)	Plantback Interval - Days (Months)
Corn Small grains Sorghum	30 days (1 month)
Cole crops Garlic Legumes (including alfalfa) Leafy vegetables (except lettuce) Root crops (except carrots and onions) Safflower Tomatoes Watermelon	60 days (2 months)
Lettuce	60 days (2 months) – if soil is deep-plowed (12-15 inches) OR 270 days (9 months) – if soil is only disked (4-6 inches)
Carrots	90 days (3 months)
Onions	120 days (4 months)
Cantaloupe, Honeydew melon/Casaba melon, Muskmelon, and Peppers	150 days (5 months)
All other crops	365 days (12 months)

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.D. WA). For further information, please refer to <http://www.epa.gov/essp/wtc>.

USE INSTRUCTIONS

DIRECTIONS FOR MIXING

Do not prepare more spray solution than required for one day's use. To prepare a spray solution of this product, follow these instructions:

- Fill the spray tank ½ full with clean water. Agitate the water and continue agitation through the mixing operation.
- Add this product to the tank followed by the remaining amount of water.
- Maintain agitation of the spray solution during application.

DIRECTIONS FOR CLEANING OF EQUIPMENT

Immediately after an application of this product, clean all mixing and spray equipment with a cleaner and water. After spraying is completed at the end of the day, rinse the interior of the tank with fresh water. Partially refill the tank with fresh water and flush the boom and hoses. These rinses will prevent deposits of dried pesticide residues that can remain in the application equipment.

Residues of this product that remain in the spray equipment may injure desirable crops if the equipment is used later to make applications to crops other than cotton. Nufarm accepts no liability for damage to crops due to inadequately cleaned equipment.

EQUIPMENT CLEANING: This product is very acidic and can damage acrylic plastics, certain paints, and metals after prolonged exposure. Therefore, ensure that any exposed acrylic plastic-type materials (e.g., aircraft windshields) are washed thoroughly with soap and water within 1 hour of exposure to the spray droplets. When the application is completed, all metal parts of the aircraft and other spray equipment which were exposed to the spray solution should be washed thoroughly with soap and water.

ADJUVANTS

The addition of adjuvants can cause substantial desiccation during periods of high temperatures. If the potential for enhanced leaf sticking is a concern, do not use adjuvants that will desiccate leaf tissue.

TANK MIXES WITH OTHER COTTON DEFOLIANT PRODUCTS

Tank mixes of this product with other cotton defoliant products can improve overall defoliation and aid in accelerating the opening of mature, unopened cotton bolls. Best activity will be obtained where the tank mix is applied to mature cotton plants. Do not apply tank mixes before sufficient unopened bolls have matured to produce the desired cotton yield.

For cotton produced in non-arid conditions, apply this product at a rate of 3.2 to 6.4 fl oz per acre plus other cotton defoliant products at the label recommended use rate for these products.

USE RATES AND APPLICATION DIRECTIONS

Product Fl oz per Acre (lb TDZ* + lb Diuron /A)	No. Acres treated by 1 gal of Product	Application Instructions
6.4 fl oz/A (0.050 lb TDZ + 0.025 lb Diuron) (Total: 0.075 lb ai/A)	20 Acres	How to Apply: Apply this product using air or ground equipment. Use desired rate in 10-25 gallons of spray per acre by ground or 2-10 gallons per acre by air.
8.8 fl oz/A (0.067 lb TDZ + 0.033 lb Diuron) (Total: 0.10 lb ai/A)	15 Acres	When to Apply: Apply this product before harvest at a rate of 6.4 to 16.0 fl oz of product per acre. At some locations, a second application of this product or an application of another cotton defoliant may be required.
12.8 fl oz/A (0.10 lb TDZ + 0.05 lb Diuron) (Total: 0.15 lb ai/A)	10 Acres	Time application to occur when cotton plants are mature and when the last harvestable bolls have matured. Mature bolls are determined by squeezing the boll between thumb and finger: if the boll cannot be dented then it is mature. Other signs of boll maturity include when the boll is too hard to be sliced with a sharp knife and when the seed coat has changed color to light brown.
16.0 fl oz/A (0.125 lb TDZ + 0.0625 lb Diuron) (Total: 0.1875 lb ai/A)	8 Acres	Preharvest Interval (PHI): 5 days

* TDZ = Thidiazuron

NOTE: Do not apply more than 16 fl oz of this product/Acre per year.

PRECONDITIONING (for use in California)

Product Fl oz per Acre (lb TDZ* + lb Diuron /A)	No. Acres treated by 1 gal of Product	Application Instructions
4 to 6 fl oz/A (0.031 lb TDZ + 0.016 lb Diuron) to (0.047 lb TDZ + 0.023 lb Diuron) (Total: 0.047 - 0.07 lb ai/A)	32 to 21.3 Acres	When to Apply: Apply 7 to 10 days before a defoliant application of this product or before application of a different defoliant. This product acts as a preconditioner and will enhance the activity of the defoliant. How to Apply: Apply this product using air or ground equipment. Use the desired rate in 10-25 gallons of spray per acre by ground or 2-10 gallons per acre by air.

* TDZ = Thidiazuron

NOTE: Do not apply more than 16 fl oz of this product/Acre per year.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in original container only and keep closed. Store in a cool, dry place. Do not use or store near heat or open flame.

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

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) 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 ¼ 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 by other procedures approved by state and local authorities. Plastic containers are also disposable by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

WARRANTY DISCLAIMER

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