228-678 04-15-2011 1/8

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Danielle Larochelle
Nufarm Americas Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527

APR 15 2011

Subject: Label Amendment
EPA Reg. No.: 228-678 / Nufarm TDZ + Diuron SC Cotton Defoliant

Dear Ms. Larochelle:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable.

Submit one copy of the final printed label for the record before you release the product for shipment. A stamped copy of the label is enclosed for your records. This label supersedes all previously accepted labels. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. If you have any questions please call Erik Kraft at 703-308-9358 or email at Kraft.Erik@epa.gov.

Sincerely,

Kathryn V. Montague

Kathryn Montague
Product Manager 23
Herbicide Branch
Registration Division (7505P)

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Nufarm TDZ + Diuron SC Cotton Defoliant

COTTON DEFOLIANT
FOR AGRICULTURAL USE ONLY

[ALTERNATE BRAND NAME: WHITEOUT™ Cotton Defoliant]
[ALTERNATE BRAND NAME: CutOut™ Cotton Defoliant]

ACTIVE INGREDIENTS:

Thidiazuron: N-phenyl-N'-1,2,3-thidiazol-5-ylurea	12.0%
Diuron: 3-(3,4-dichlorphenyl)-1,1-dimethylurea	6.0%
OTHER INGREDIENTS:	82.0%
TOTAL:	100.0%

Contains 1 lb. Thidiazuron per gallon and 0.5 lb. Diuron per gallon.

ACCEPTED
APR 15 2011
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under Reg. No 228-678

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)
See inside booklet for additional Precautionary Statements and First Aid

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
EPA EST. NO. _____

MANUFACTURED FOR
NUFARM AMERICAS INC.
150 HARVESTER DRIVE
BURR RIDGE, IL 60527

NET CONTENTS _____GALS. (_____Liters)

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive. Causes irreversible eye damage. Causes skin burns. Harmful if swallowed. Harmful if absorbed through skin. **DO NOT** get in eyes, on skin, or on clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

All pilots and flaggers must wear:

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

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

- Coveralls worn over long-sleeved shirt and long pants
- Chemical resistant footwear plus socks
- Goggles or faceshield
- Chemical-resistant gloves
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when mixing, loading, or cleaning equipment or spills
- A NIOSH approved particulate filtering respirator equipped with N, R, or P class filter media. The respirator should have a NIOSH approval number prefix TC-84A. It is recommended that you require the respirator wearer be fit tested, and trained in the use, maintenance, and limitations of this respirator.

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.

FIRST AID	
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to do so by the poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE 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 1-877-325-1840 for emergency medical treatment information.	
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.	

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 24 hours**. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
Coveralls, chemical-resistant gloves such as barrier laminate or butyl rubber, chemical-resistant footwear plus socks, and protective eyewear.

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PRODUCT INFORMATION

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

DRIFT REDUCTION PRACTICES

To reduce the potential for drift to non-target crops or foliage during applications, especially under windy conditions, follow these specified practices:

- **DO NOT** apply this product by ground or air when wind speeds exceed ten (10) miles per hour at the time of application.
- Use nozzle pressures of between 20 and 30 psi.
- **DO NOT** apply this product when a temperature inversion is present or when conditions favor an inversion before application is completed.
- Use the largest nozzle orifice possible that will deliver the proper deposition and coverage of product.
- **DO NOT** make ground applications of this product within 100 feet of growing lettuce.
- **DO NOT** make aerial application of this product within 0.5 miles 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 0.5 miles downwind of the application point.

REQUIREMENTS FOR REDUCING SPRAY DRIFT FOR DIURON GROUND AND AERIAL APPLICATIONS: Use best practices to avoid drift to all other crops and non-target 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 ASAE standard 572) 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 must 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.

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

DO NOT add adjuvants to spray mixtures. Desiccation and/or leaf freezing during periods of high temperature may occur. **DO NOT** use other compounds that will desiccate leaf tissue.

TANK MIXES WITH OTHER COTTON DEFOLIANT PRODUCTS

The tank mix of this product with other cotton defoliant products can improve overall defoliation, and as an 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 mix 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 DIRECTIONS

Refer to the table below for use rates and directions for application.

USE RATES AND APPLICATION DIRECTIONS

Product oz. per Acre (lb TDZ** + lb Diuron /A)	No. Acres treated by 1 gal of Product	Additional Instructions
6.4 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. **When to Apply:** Apply this product before harvest at a rate of 6.4 to 16.0 ounces of product per acre. After this application, an application of a cotton defoliant may be required, or a second application, but **DO NOT** exceed 16 ounces (1 pint) of this product per Acre per year. 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. **Preharvest Interval: DO NOT** harvest cotton seed less than 5 days after the last application.
8.8 oz./A (0.067 lb TDZ + 0.033 lb Diuron) (Total: 0.10 lb ai/A)	15 Acres	
12.8 oz./A (0.10 lb TDZ + 0.05 lb Diuron) (Total: 0.15 lb ai/A)	10 Acres	
16.0 oz./A (0.125 lb TDZ + 0.0625 lb Diuron) (Total: 0.1875 lb ai/A)	8 Acres	

** TDZ = Thidiazuron

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

PRECONDITIONING FOR USE IN CALIFORNIA

Product oz. per Acre (lb TDZ** + lb Diuron /A)	No. Acres treated by 1 gal of Product	Application Instructions
4 – 6 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 – 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.

PRECAUTIONS AND RESTRICTIONS

Spray drift from this product may reach desirable trees or crops other than the target crop of mature cotton, or cotton you desire to defoliate. Spray drift to non-target crops can cause crop injury or defoliation. Use extreme caution if this product is applied to adjacent fields of lettuce, citrus, or cantaloupe.

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.

A rain event occurring within 12 hours of application may reduce effectiveness of this product.

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 and 0.0625 lb Diuron) per acre per year.

DO NOT make more than 2 applications of this product per year.

The minimum retreatment interval is 21 days.

ROTATION 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)	**Rotation Crop 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) OR 270 days (9 months) (see footnote)
Carrots	90 days (3 months)
Onions	120 days (4 months)
Cantaloupe, Honeydew melon/Casaba melon, and Muskmelon Peppers	180 days (5 months)
All other crops	365 days (12 months)
Only rotate to lettuce 60 days after an application of this product if the soil is deep-plowed (to 12-15 inches). Otherwise, plant lettuce 270 days after the product application if the soil is disked to 4-6 inches.	

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.espp/

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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 DISPOSAL: Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling, if available. 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.

DO NOT REUSE EMPTY CONTAINER

WARRANTY DISCLAIMER

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

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

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