

51036-401

01/15/2003

1/13



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505C)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg.  
Number:

51036-401

Date of Issuance:

JAN 15 2003

## NOTICE OF PESTICIDE:

X  Registration  
    Reregistration

Under FIFRA, as amended.

Term of Issuance:

Conditional

Name of Pesticide Product:

THIDIAZURON 50W

Name and Address of Registrant (include ZIP Code):

Micro Flo Co. LLC  
P.O. Box 772099  
Memphis, TN 38117

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label change:
  - a. Revise the EPA Registration Number to read, "EPA Reg. No. 51036-401".
3. Pending the review of the product specific data (storage stability/corrosion characteristics) submitted in support of this registration, the Agency may require additional product labeling.
4. Submit one (1) copy of the revised final printed label for the record.

Signature of Registrant (if known)

Date:

JAN 15 2003

page 2  
EPA Reg. No. 51036-401

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

Enclosure

For Agricultural Use Only

**THIDIAZURON 50W**

Cotton Defoliant Packed In Water Soluble Bags

ACTIVE INGREDIENT:

Thidiazuron\* ..... 50%

INERT INGREDIENTS: ..... 50%

TOTAL ..... 100%

\*N-phenyl-N'-1,2,3-thiadiazol-5-ylurea

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 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 mouth-to-mouth, if possible.
- Call a poison control center or doctor for further 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 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.

EPA Reg. No. 51036-

EPA Est. No. 51036-GA-001

NET CONTENTS:

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

JAN 15 2003

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

51036-401

Manufactured By:  
MICRO FLO COMPANY LLC  
P.O. BOX 772099  
MEMPHIS, TN 38117

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if Swallowed, Inhaled, or Absorbed Through the Skin. Avoid Breathing Spray Mist. Avoid Contact with Skin, Eyes, and Clothing. Do Not Contaminate Food or Feedstuffs.

#### EMERGENCY TELEPHONE NUMBERS:

- (800) 424-9300 (CHEMTREC, transportation and spills)
- (800) 900-4000 (Poison Control Center, human health)
- (800) 345-4735 (ASPCA, animal health)

### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on 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 when disposing of equipment washwaters. Do not apply when weather conditions favor drift from target area.

### STORAGE AND DISPOSAL

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

STORAGE: Do not store box under wet conditions. Handle box carefully when stored at temperatures of less than 50°F to avoid breakage of soluble bags.

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

CONTAINER DISPOSAL: Completely empty box into application equipment. Then dispose of empty box in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. DO NOT REUSE EMPTY CONTAINER

### GENERAL INFORMATION

THIDIAZURON 50W is designed to defoliate cotton (remove leaves and inhibit regrowth) to aid harvesting. THIDIAZURON 50W is a wettable powder that can be applied by air or ground. Cotton leaf defoliation will take several days depending on weather conditions. Low temperatures require higher application rates and/or longer time to defoliate.

This box contains THIDIAZURON 50W cotton defoliant in water soluble bags. Inner bags dissolve in water and contents disperse. After opening outer box, open foil liner, immediately dump entire unopened inner bags into the mix tank. Do not handle soluble bags or expose them to moisture, since this may cause breakage.

### USE PRECAUTIONS

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

Rainfall within 24 hours after application will reduce the effectiveness of THIDIAZURON 50W. Use only freshly prepared sprays. Do not store spray mixture overnight.

Do not feed foliage from treated cotton plants or gin trash to livestock.

## PLANT BACK INTERVALS

CROP	INTERVAL
Small grain, sorghum, corn or root crops (except carrots, onions, and sugar beets)	2 weeks
Legumes (including alfalfa) or leafy vegetables (except lettuce and spinach)	2 months
Sugar beets	4 months
Carrots, onions, or spinach	9 months
Lettuce	9 months and only after deep plowing (12-15 inches)

- Do not use immature crops for food or feed.
- Do not allow spray drift to contact crops other than the target crop of mature cotton, or cotton which you desire to defoliate, as this product may injure or defoliate other crops.
- Particular care should be taken when applying THIDIAZURON 50W adjacent to lettuce, citrus, or cantaloupe. Tank mixes with organophosphates may increase non-target crop phytotoxicity.
- Additionally, do not apply THIDIAZURON 50W by air within one-half (1/2) mile of lettuce. Do not apply THIDIAZURON 50W by ground equipment within 100 feet of lettuce.
- In addition, for citrus crops, do not apply THIDIAZURON 50W by air when citrus in flush is within five (5) miles downwind of the point of application. Do not apply THIDIAZURON 50W by ground when citrus in flush is within one-half (1/2) mile downwind of the point of application.

## SPRAY DRIFT MANAGEMENT

Avoid spray drift to nearby crops as this product will cause modifications in plant growth. Small seeded crops such as lettuce, carrots, onions and spinach are especially sensitive. Plant injury or reduced yields will result.

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

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

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

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

Where states have more stringent regulations, they should be observed.

#### AERIAL DRIFT REDUCTION ADVISORY

##### 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

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produces larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produces the largest droplets and the lowest drift.

**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 height** - Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

## SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced windward. Therefore, on the up and down edges of the field, the applicator should compensate for the displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with the increasing drift potential (higher wind, smaller drops, etc.).

## WIND

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

## SENSITIVE AREAS

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, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## 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 interval.

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
- Waterproof gloves
- Shoes plus socks

## TIME OF APPLICATION

Make application to mature cotton when all bolls to be harvested are mature and at least 5 days prior to harvest. Degree and speed of defoliation will depend on level of cotton growth activity, ambient temperature, humidity levels within 5 days after application and moisture content in cotton foliage.

Low temperatures (< 60°F) and drought stressed cotton can also adversely effect the level of defoliation and regrowth inhibition. If nightfall temperatures are < 60°F before and immediately after application, consideration should be given to use of a tank mix with another defoliant or desiccant approved for use on cotton and that is less affected by cooler temperatures.

## USE OF ADJUVANTS (CROP OILS)

Tank mixing THIDIAZURON 50W with EPA approved petroleum-based crop oils will help offset the effects of low temperatures, drought stress or low humidity levels typical in some areas (i.e. desert Southwest area). Refer to the crop oil label for specific application rates.

## MIXING INSTRUCTIONS

1. Fill spray tank with 40-50% total amount of water required.
2. Start agitator.
3. Open foil bag and dump water-soluble packets. Use all contents of foil bags once opened.
4. Finish filling spray tank with balance of water with agitator running.

## TANK MIX ADJUVANTS

Use of a surfactant or compatibility agent for tank mixes with other pesticides (especially organophosphates) will enhance tank clean out and increase defoliation. If applicator has no experience with a particular tank mix, a clear jar test of all ingredients should be performed. The jar test should duplicate the proposed tank mix in proper ratios and recommended order of addition.

Use only products that are exempt from tolerance under 40 CFR 180.1001.

Always follow the mixing instructions on the label of the appropriate adjuvant.

## APPLICATION

Thorough coverage of cotton foliage is critical to maximize defoliation. Mix the labeled rate of THIDIAZURON 50W in enough water to achieve complete coverage with spray equipment used. Spray mixture should be agitated constantly during application to insure consistent concentration. Apply in a minimum of 10 gallons per acre by ground and 2 gallons per acre by air.

## DOSAGE

One box (5 x 1 lb. bags) of THIDIAZURON 50W treats 12.5-25 acres (0.2-0.4 lbs. THIDIAZURON 50W per acre).

Rate should be adjusted to current and future weather conditions. As noted in Timing section, higher rates are recommended at lower temperatures (< 65 F).

Two applications may be needed to defoliant rank cotton but do not exceed 0.6 lbs./acre total.

# BOTTOM DEFOLIATION FOR USE IN ARIZONA ONLY:

THIDIAZURON 50W can be used to defoliate the lower third of cotton plants to promote air circulation in the field that will reduce boll rot disease pressures.

Apply 0.1 lbs of THIDIAZURON 50W per acre in a minimum of 10 gallons of water as a directed spray with ground equipment. Care should be taken to apply THIDIAZURON 50W to prevent damage to the plants by the application equipment. Ground speed and appropriate dilution rate may need to be adjusted to minimize potential physical damage.

# PRECONDITIONING FOR USE IN ARIZONA AND CALIFORNIA ONLY:

0.1 to 0.2 lbs of THIDIAZURON 50W per acre may be applied as a pre-conditioner 7-14 days before the use of another cotton defoliant. Apply in a minimum of 10 gallons of water per acre by ground equipment and 2 gallons of water per acre by air. Refer to other defoliant for any applicable precautions.

# TANK MIX OF THIDIAZURON 50W PLUS ETHEPHON 6 or PREP FOR BOLL OPENING:

A tank mix of 0.1 to 0.4 lbs THIDIAZURON 50W and 21 to 42 fluid ounces of ETHEPHON 6 (equivalent to 1.0 to 2.0 lbs active ingredient) per acre will enhance defoliation and accelerate boll opening. Use the higher rate of THIDIAZURON 50W during cooler temperatures or if excessive regrowth is possible.

Do not use this tank mix before the optimal percentage of bolls in a field has matured. Premature application could result in a yield decrease. Certified cottonseed producers should confirm seed maturity before treatment.

Apply as a dilute spray as follows:

<u>Application Method</u>	<u>Gallons of Water/Acre</u>
Aerial	3-10
Ground	10-50

# TANK MIX OF THIDIAZURON 50W PLUS ETHEPHON 6 OR PREP FOR DEFOLIATION ENHANCEMENT:

Apply 0.1 to 0.4 lbs of THIDIAZURON 50W in a tank mix with 1/3 pint of ETHEPHON 6 (equivalent to 0.25 lbs active ingredient per acre) will increase defoliation but without undesirable accelerated boll opening. Ethephon may still be applied subsequently for boll opening. Users should refer to ETHEPHON 6 label for any seasonal application limits for all ethephon use on

cotton. Use the higher rate of THIDIAZURON 50W during cooler temperatures or if excessive regrowth is possible.

TANK MIX OF THIDIAZURON 50W PLUS DEF 6<sup>2</sup> OR THIDIAZURON 50W PLUS FOLEX 6EC<sup>3</sup>:

Defoliation and regrowth inhibition will be improved during periods of cool weather (<60°F) with a tank mix of 0.1 to 0.4 lbs of THIDIAZURON 50W and 0.5 to 2.0 pints of Def<sup>6</sup> (or Folex<sup>6EC</sup>) per acre. Apply tank mix in a minimum of 10 gallons of water per acre by ground and 5 gallons of water per acre by air.

Use the higher rate of THIDIAZURON 50W if excessive regrowth is expected due to high soil moisture and/or higher temperatures.

Use the lower rate of Def<sup>6</sup> or Folex<sup>6</sup> when nighttime temperatures remain above 65°F. To avoid plant desiccation, do not apply maximum rates of THIDIAZURON 50W and phosphate based defoliant.

When mixing the tank mix spray solution, add the THIDIAZURON 50W first (see Mixing Instructions) and then add the Def<sup>6</sup> or Folex<sup>6</sup> after the THIDIAZURON 50W has completely dispersed.

If a second application of this tank mix is required, do not exceed a total THIDIAZURON 50W application of 0.6 lbs per acre.

Refer to Def<sup>6</sup> or Folex<sup>6</sup> labeling for additional use directions and cautions when using tank mixtures of THIDIAZURON 50W and those products.

DO NOT USE TANK MIX OF THIDIAZURON 50W PLUS DEF<sup>6</sup> OR FOLEX<sup>6</sup> IN THE RIO GRANDE VALLEY COUNTIES OF STARR, HIDALGO, WILLACY, AND CAMERON.

#### IMPORTANT CLEANOUT INSTRUCTIONS

All spray equipment components containing spray solutions with THIDIAZURON 50W should be cleaned as soon as possible after application. Care should be taken to clean ALL components of equipment including (but not limited to) mix tanks, pumps, transfer lines, application tanks, sumps, booms and nozzles.

Timely flushing of entire system while still wet with a commercial grade tank cleaner is strongly advised.

If spray solution is allowed to dry in any equipment component, small quantities may carryover and be released in subsequent applications and damage other crops. If spray residue is allowed to dry, flood system with a dilute commercial tank cleaner and allow to soak for several days will be necessary before using equipment again.

## SEQUENTIAL APPLICATION PRECAUTION

Application of THIDIAZURON 50W to cotton subsequent to the application of a defoliant or desiccant spray that contains no thidiazuron will result in reduced activity.

## CONDITIONS OF SALE AND WARRANTY

The Directions For Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as inappropriate timing, weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of MICRO FLO COMPANY ("Micro Flo") or the Seller. All such risks shall be assumed by the Buyer. Micro Flo warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the inherent risks, referred to above. MICRO FLO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL MICRO FLO OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. Micro Flo and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing Conditions of Sale and Warranty which may be varied only by agreement in writing signed by a duly authorized representative of Micro Flo.

<sup>1</sup>Prep is a trademark of Aventis Group

<sup>2</sup>Def 6 is a registered trademark of Bayer Corporation, Agricultural Chemical Division.

<sup>3</sup>Folex 6EC is a registered trademark of Aventis CropScience