

PM-23

Reg # 67801-1

6/4/97

196

THIDIAZURON 50WP COTTON DEFOLIANT

Active Ingredient:

Thidiazuron (N-phenyl-N'-1,2,3-thiadiazol-5-ylurea).....50%

Inert Ingredients:.....50%

Total.....100%

For Agricultural Use Only

EPA Reg. No. 67801-*R*

EPA Est. No. _____

EXP 04/97

Net Wt: 5 lbs (2.26 kg)

97 APR 29 10:18

REC'D 7/09/97

KEEP OUT OF REACH OF CHILDREN CAUTION

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If inhaled: Remove person to fresh air.

If in eyes: Flush with plenty of water for fifteen minutes.

If on skin: Wash with plenty of soap and water.

This product is packaged in water soluble bags. Inner bags dissolve in water and contents disperse. After opening outer container, 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.

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.

Personal Protective Equipment:

Applicators and other handlers must wear:

- * long-sleeved shirt and long pants.
- * waterproof gloves.
- * shoes plus socks.
- * protective eyewear

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 Statements: 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 [40CFR 170.240(d)(4-6)], the handler's PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

User 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.

ACCEPTED

JUN 4 1997

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 67801-1

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

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

Pesticide Disposal: Do not contaminate water, food or feed by storage or 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 container into application equipment. Then dispose of empty container 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

This product is used for removal of leaves prior to harvesting. This product disperses easily in water and can be used in any ground and aircraft equipment designed for application of wettable powders. It may take several days before the effect of this product becomes noticeable. Adverse conditions, such as low temperatures, may require higher dosages and/or longer times for more complete defoliation. This product inhibits regrowth after defoliation and thus reduces staining of lint during harvesting and ginning.

USE PRECAUTIONS

Do not apply this product through any type of irrigation system. Rainfall within 24 hours after application will reduce the effectiveness of this product. Use only freshly prepared sprays. Do not store spray mixture overnight. Do not feed foliage from treated cotton plants or gin trash to livestock. Do not plant the following crops earlier than the specified periods after the application of this product:

- small grain, sorghum, corn, or root crops.....2 weeks
(except carrots, onions, and sugar beets)
- legumes (including alfalfa) or leafy vegetables.....2 months
(except lettuce and spinach)
- sugar beets.....4 months
- carrots, onions, or spinach.....9 months
- lettuce.....9 months
and only following 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 this product adjacent to lettuce, citrus, or cantaloupe. Tank mixes with organophosphates may increase nontarget crop phytotoxicity.

PRACTICES TO LOWER THE POTENTIAL FOR DRIFT ONTO NON-TARGET CROPS: During applications, particularly under windy conditions, this product may drift to nontarget crops. To help reduce the drift potential, use the following practices:

- ✓ Do not apply this product by ground or air when wind speeds exceed ten (10) miles per hour at the time of application. Follow local recommendations if wind speeds of less than ten (10) miles per hour are specified in those recommendations.
- ✓ Use of low nozzle pressure (20-30 psi) is recommended.
- ✓ Do not apply this product when a temperature inversion is present or when conditions favor an inversion prior to completing application(s).
- ✓ Additionally, do not apply this product by air within one-half (½) mile of lettuce. Do not apply this product by ground equipment within 100 feet of lettuce.

PRACTICES TO LOWER DRIFT POTENTIAL ONTO NON-TARGET CROPS IN THE RIO GRANDE VALLEY OF TEXAS: To help reduce the drift potential, use the following practices:

- ✓ Do not apply this product by ground or air when wind speeds exceed ten (10) miles per hour at the time of application. Follow local recommendations if wind speeds of less than ten (10) miles per hour are specified in those recommendations.
- ✓ Use of low nozzle pressure (20-30 psi) is recommended.
- ✓ Do not apply this product when a temperature inversion is present or when conditions favor an inversion prior to completing application(s).
- ✓ Use the largest nozzle orifice possible which permits proper deposition and coverage of product.
- ✓ For citrus crops, do not apply this product by air when citrus in flush is within five (5) miles downwind of the point of application. Do not apply this product by ground when citrus in flush is within one-half (½) mile downwind of the point of application.

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.

Agricultural Use Requirements (continued)

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

Apply this product only to mature cotton plants when the last boll you expect to harvest is mature. A boll can be described as "mature" when it is too hard to be dented when squeezed between thumb and fingers, is difficult to slice with a sharp knife, and/or when seeds cut in cross sections have fully developed cotyledons, as evidenced by an absence of jelly within the seed. Apply this product at least five (5) days prior to anticipated harvest. Good defoliation with this product is dependent upon three (3) factors:

1. Actively growing cotton
2. High humidity
3. High moisture content in leaf of cotton plant

Use of this product alone (without a tank mix partner) when nighttime temperatures are expected to fall below 60°F can result in less than desirable defoliation and/or regrowth inhibition. Performance of this product is variable under low temperatures. Ideally nighttime temperatures 2 to 3 days prior to and following application should be above 60°F or total defoliation and regrowth inhibition can be reduced. Use of this product on heat and drought stressed cotton (low leaf moisture, thick cuticle, etc.) may result in less than satisfactory defoliation and regrowth inhibition.

USE OF ADJUVANTS (CROP OILS)

The use of adjuvants such as petroleum-based crop oils or penetrating oils approved for use on growing crops has been shown to improve performance during low nighttime temperatures (60° - 65°F) or when defoliating drought-stressed cotton. Refer to specific adjuvant label for rate recommendations. The use of adjuvants is recommended when applying this product in the desert Southwest, i.e., Arizona and California. **PRECAUTION:** The addition of adjuvants can cause desiccation and/or leaf freezing during periods of high temperatures. The use of compounds that desiccate leaf tissue is not recommended.

MIXING INSTRUCTIONS

Fill the spray tank with one-half (½) of the total amount of water to be used. After opening each container to be used, open its foil liner. Immediately dump the entire contents of the required number of containers of soluble bags into the mix tank. Fill the tank with the additional quantity of water required and then start the agitator. Use the entire contents of each container.

TANK-MIX ADJUVANTS

When using tank mixes of this product and organophosphates, the use of a surfactant or compatibility agent is recommended to improve tank clean-out and overall defoliation. Prior to mixing in the spray tank, a small scale compatibility test should be conducted. Use only products which are exempt from tolerance from 40 CFR 180.1001. Always follow the mixing instructions on the label of the appropriate adjuvant.

APPLICATION

Use the specified dosage of this product in sufficient amount of water to give complete coverage of the foliage with uniform wetting of leaf surfaces. Agitate the spray mix during application.

DOSAGE

One container (5 x 1 lbs) of this product treats 12.5 to 25 acres (0.2 - 0.4 lbs of this product per acre). Apply in 10 to 25 gallons of spray per acre by ground equipment and 2 to 10 gallons per acre by air. Use the higher rates during periods of low temperatures (60°- 65°F). Two applications not exceeding a total of 1 container (5 x 1 lbs) per 8.3 acres (0.6 lbs/acre) may be necessary to defoliate rank cotton.

BOTTOM DEFOLIATION FOR USE IN ARIZONA ONLY: This product may be used as an aid to improve air circulation and help reduce boll rot caused by moisture. Apply 0.1 lbs of this product per acre in 10 to 25 gallons of water per acre. Application to only the bottom one-third (1/3) of the plant is recommended. Timing of application should be based upon the latest date when ground application equipment can enter the field without crop damage.

PRECONDITIONING FOR USE IN ARIZONA AND CALIFORNIA ONLY: This product may be used as a pre-conditioner to enhance the activity of a defoliant application. Apply 0.1 to 0.2 lbs of this product per acre. Apply in 10 to 25 gallons of water per acre by ground application or 2 to 10 gallons of water per acre by aerial application. Timing of application is recommended to be 7 to 14 days prior to the use of another defoliant. Refer to the second product label prior to use for complete recommendations.

TANK MIX OF THIS PRODUCT PLUS PREP® (ETHEPHON) FOR BOLL OPENING: The tank mix of this product plus Prep® (ethephon) is recommended to 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. See time of application section of this label. Do not apply tank mix before sufficient unopened bolls have matured to produce the desired cotton yield. If nighttime temperatures are expected to fall below 60°F, unsatisfactory defoliation and regrowth inhibition may result. Certified cotton seed producers should determine boll and seed maturity prior to treatment. Apply 0.1 to 0.4 lbs of this product plus Prep® (ethephon) at 1.0 to 2.0 lbs active ingredient per acre. The higher rate of this product should be used where excessive regrowth is anticipated, or during cooler temperatures. 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 THIS PRODUCT PLUS PREP® (ETHEPHON) FOR DEFOLIATION ENHANCEMENT: Lower rates of Prep® (ethephon) may be tank mixed with this product to enhance defoliation without providing boll opening activity. Prep® (ethephon) may still be applied as a sequential treatment for boll opening following an application of this product plus Prep® (ethephon) at a defoliation enhancement rate. Read and follow the Prep® (ethephon) label, and do not exceed a maximum of 2.0 lbs active ingredient/acre for combined uses of Prep® (ethephon) per acre per year. Apply 0.1 to 0.4 lbs of this product plus Prep® (ethephon) at one-third (1/3) pint per acre (0.25 lbs active ingredient/acre). The higher rates of this product should be used where excessive regrowth is anticipated, or during cooler temperatures.

TANK MIX OF THIS PRODUCT PLUS TRIBUFOS (DEF® 6 OR FOLEX® 6EC): The tank mix of this product plus Def® 6 (tribufos) or this product plus Folex® 6EC (tribufos) is recommended to improve defoliation and inhibit regrowth under less than ideal conditions. Less than ideal conditions are those when the nighttime temperatures are expected to be 60°F on the date of application and for three days following application. Best activity will be obtained when the tank mix is applied to mature cotton plants with 60% or more open bolls.

RATE OF APPLICATION:

This product plus Def® 6 (tribufos): 0.1-0.4 lbs this product + 0.5-2.0 pints Def® 6 (tribufos)
This product plus Folex® 6EC (tribufos): 0.1-0.4 lbs this product + 0.5-2.0 pints Folex® 6EC (tribufos)
Higher rate of this product should be used where more excessive regrowth is anticipated. Maximum rates of this product and phosphate defoliant applied in a tank mix during very high air temperatures can cause desiccation. Use the lower rate of tribufos (Def® 6 or Folex® 6EC) under ideal nighttime temperature conditions (65°F); higher rate during less than ideal or adverse conditions. Apply as a dilute spray in 5 to 10 gallons of water per acre with ground equipment. When applying tribufos (Def® 6 or Folex® 6EC) plus this product as a tank mix. The following mixing sequence is recommended

1. Add required water to spray tank, agitate
2. Add this product according to label directions (see mixing instructions)
3. After this product has completely dispersed, add tribufos (Def® 6 or Folex® 6EC) according to desired rate.

A second application of the labeled tank mix may be made where necessary, but not exceeding a total of 0.6 lbs of this product per acre. Refer to tribufos (Def® 6 or Folex® 6EC) labeling for additional use directions and cautions when using tank mixtures of this product and those products. Do not use a tank mix of this product plus tribufos (Def® 6 or Folex® 6EC) in the Rio Grande Valley Counties of Starr, Hidalgo, Willacy, and Cameron.

IMPORTANT CLEAN OUT INSTRUCTIONS

Tank mixes of this product with organophosphates may form a residue in application equipment. While still fresh and moist, this residue can be removed by flushing the entire system with a commercial tank cleaner. Do not allow spray solution to dry in the application equipment. Immediately following application, clean all equipment (mix tanks, pumps, transfer lines, application tanks, sumps, booms, nozzles, and all related equipment) thoroughly with cleaner or water. Should small quantities of this product remain in inadequately cleaned equipment, they may be released during subsequent applications and may cause damage to crops. The registrant or seller accepts no liability for damage to crops due to inadequately cleaned equipment.

SEQUENTIAL APPLICATION PRECAUTION

Do not apply sequential application of this product following any defoliant or desiccant except this product used alone or this product in a tank mix. Reduced activity of the second treatment will result.

Prep and Folex are trademarks of Rhone-Poulenc

Def is a trademark of Bayer Corporation

IMPORTANT: READ BEFORE USE

By using this product, user or buyer accepts the following conditions, warranty, disclaimer of warranties and limitations of liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, because of extreme weather and soil conditions, manner of use and other factors beyond Crystal's control, it is impossible for Crystal to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

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