

DEFOLIANT



VACATE®

FOR AGRICULTURAL USE ONLY

ACTIVE INGREDIENT:

Thidiazuron (N-phenyl-N'-1,2,3-thiadiazol-5-ylurea)* 41.4%

OTHER INGREDIENTS:

58.6%

TOTAL:

100.0%

*Contains not less than 4.0 lbs. of thidiazuron per gallon.



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**KEEP OUT OF REACH OF CHILDREN
CAUTION / PRECAUCIÓN**

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300.

EPA Reg. No.: 89167-14-89391



Distributed By:
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 **INNICTIS**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION / PRECAUCIÓN

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

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt,
- long pants,
- Shoes and socks.
- See Engineering Controls for Requirements.

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

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240 (d)(6)].

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.

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 a 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.

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.

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 **1-877-325-1840** for emergency medical treatment information.

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 washwater or rinsate. **DO NOT** apply when weather conditions favor drift from treated areas.

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.

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 State or Tribal 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. 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 made of any waterproof material
- Shoes plus socks

Thidiazuron products cannot be applied by air within ½ mile of lettuce or 5 miles downwind of the point of application when citrus is in flush (burst of new growth, as in springtime) in the Rio Grande Valley of Texas. Ground applications are restricted to 100 feet away from Lettuce and ½ mile downwind from the point of application for citrus.

(In general, a decrease in droplet size or increase in wind speed at the time of application will result in risk to non-target organisms. Alternatively, if droplet size is coarser or wind speeds are lower, exposures due to drift would be reduced).

PRODUCT INFORMATION

This product provides growers a tool to help in the harvest of cotton. This product readily disperses in water for use in various types of application equipment. Applications by ground or air of this product just prior to harvest causes the leaves to fall off the plants (defoliation) and inhibits additional plant growth. This effect helps to reduce any staining of lint that occurs during harvest and ginning.

The effects of this product may not be seen for several days after treatment. Cooler weather or other adverse conditions will require an adjustment in the dose level (i.e., higher rates) or require longer periods of time for defoliation to occur.

USE RESTRICTIONS

- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply this product if rainfall is expected within 24 hours of application.
- **DO NOT** feed gin trash, treated foliage or immature crops to livestock.

Rotation Crop Restrictions: **DO NOT** replant the following crops unless the minimum specified time has elapsed after the last application of this product.

ROTATION CROP	PLANTBACK INTERVAL
Small grains, sorghum, corn, or root crops (except carrots, onions or sugar beets)	Two (2) weeks
Legumes (including alfalfa) or leafy vegetables (except lettuce and spinach)	Two (2) months
Sugar beets	Four (4) months
Carrots, onions and spinach	Nine (9) months
Lettuce (replant ONLY if the soil has been deep-plowed down to 12-15 inches.)	Nine (9) months

This product will defoliate and cause injury to other plant species. Avoid spray drift to crops other than the target crop of cotton.

Increased non-target phytotoxicity is sometimes observed when tank-mixing this product with organophosphates or when particularly sensitive crops such as lettuce, citrus, and cantaloupes are planted adjacent to fields treated with **VACATE** Cotton Defoliant.

Some of these species may require repeat applications and/or use of higher rate specified on this product label even under ideal conditions for applications. Control of Pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

DRIFT REDUCTION PRACTICES

Drift to non-target crops occurs during application of this product especially under windy weather conditions. Take the following steps to reduce the potential for off-site spray drift:

- In general, a decrease in droplet size or increase in wind speed at the time of application will result in risk to non-target organisms. Alternatively, if droplet size is coarser or wind speeds are lower, exposures due to drift would be reduced.
- **DO NOT** make aerial or ground applications of this product when wind speeds are greater than ten (10) miles per hour at the application site. If wind speeds are less than ten (10) miles per hour, consult your State Extension Cotton Specialist for local application instructions.
- Use the specified low nozzle pressures of 20-30 psi.
- **DO NOT** apply this product during a temperature inversion or if a temperature inversion appears likely to occur during the application.
- Use the maximum nozzle orifice size that provides appropriate coverage and deposition of this product.
- **DO NOT** make ground applications of this product within 100 feet of growing lettuce.
- **DO NOT** make aerial applications 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 within 5 miles downwind of the point of application when citrus are in flush (burst of new growth, as in springtime). **DO NOT** make ground applications of this product within 0.5 miles upwind of the application point when citrus are in flush.

APPLICATION TIMING

Make applications of this product only to mature cotton plants and when bolls are mature. Bolls are considered mature when the following are observed: **1)** the boll does not dent when squeezed between thumb and finger; and/or **2)** the boll is difficult to cut using a sharp knife; and/or **3)** the seeds have fully developed cotyledons (determined by the fact that the seeds lack liquid within the seed coat if cut in cross section or if the outer edges of the seed coat are light brown).

Make product applications at least five (5) days before the expected day of harvest.

NOTE: The success of this product as a cotton defoliant depends on the following factors

- Cotton plants are actively growing.
- Humid weather conditions exist.
- Cotton plant leaves are high in moisture content.

APPLICATION CONDITIONS

If the temperatures at night fall below 60 °F, this product applied as a stand-alone product (i.e., without a tank mix partner), may give inconsistent or ineffective defoliation and/or regrowth suppression. Improved performance of this product is achieved if application is timed so that the overnight temperatures exceed 60 °F for 2-3 days prior to and 2-3 days after application.

Heat- and/or drought-stressed cotton (low leaf moisture content, thick cuticle) will not be completely defoliated and/or suppressed in growth when this product is applied to these plants.

SEQUENTIAL PRODUCT APPLICATIONS

To avoid reduced or unsatisfactory defoliation, apply a sequential application of this product **only** if the first application was applied as a stand-alone or as a tank mix with other defoliant. Also refer to the section on **APPLICATION CONDITIONS** of this label.

USE OF CROP OIL/ADJUVANTS

Improved defoliation and regrowth suppression has been shown when crop oil concentrates (COC's) or penetrating oils approved for use on agricultural crops are mixed with this product and applied when nighttime temperatures are low (60 °-65 °F) or when drought conditions exist. Consult the adjuvant label for use directions and rates. When applying this product in the desert Southwest (i.e., Arizona and California), use adjuvants.

NOTE: DO NOT use adjuvants during high temperature periods as freezing and/or desiccation of leaves has been observed.

MIXING INSTRUCTIONS

1. Add one-half the amount of water required to the spray applicator tank.
2. Begin agitation and continue agitation during the addition and application steps below.
3. Add this product.
4. Fill the spray tank with the remainder of the water.

Prepare only the amount of spray solution needed for a single day of application. **DO NOT** allow the spray tank mixture to stand overnight.

TANK MIX ADJUVANTS

To improve defoliation and spray tank clean-out, add a compatibility agent or surfactant to tank mixes of this product with organophosphate defoliants. Conduct a compatibility test of all components before adding to the spray tank. Only products which are exempt from tolerance (refer to 40 CFR 180) are permitted for this use. Consult the adjuvant label for mixing and application directions and use rates.

DIRECTIONS FOR APPLICATION

Apply the specified amount of this product in sufficient volume of water to ensure uniform and thorough coverage of the leaves.

Ground equipment: apply 10-25 gallons per acre.

Aerial applications: apply 3-10 gallons per acre.

Ensure adequate agitation is maintained during application.

APPLICATION USE RATES

For defoliation of rank cotton, apply a second application to ensure adequate defoliation. **DO NOT** make more than two applications and **DO NOT** exceed a total of 9.6 fl. oz. (0.3 lb. AI/acre).

DO NOT APPLY MORE THAN 9.6 FL. OZ. (0.3 LB. AI/ACRE) PER YEAR.

Use Rate Information (under normal conditions) for Cotton: 0.125 lbs. AI/A (4 fl oz)

Maximum application rate of 0.3 lbs. AI/A/year

Maximum of 2 applications, but not to exceed 0.3 lbs. AI/A/year

Use Rate Information (under variable conditions) for Cotton:

Maximum application rate of 0.2 lbs. AI/A

Maximum application rate of 0.3 lbs. AI/A/year

Maximum of 2 applications, but not to exceed 0.3 lbs. AI/A/year

For cutout and mature cotton under normal weather patterns, use this product at 0.05 to 0.10 lb. active ingredient per acre. The 0.05 lb. rate is most effective when used in a tank mix with other cotton defoliating products.

Increased rates of this product above 0.10 lb. of active ingredient per acre to defoliate and control regrowth during periods of rank growth/high fertilizer conditions, extreme weather conditions, such as extended periods of rain and/or low temperatures (60-65 °F), and on full-season cotton varieties.

TO ACHIEVE AN APPLICATION RATE OF:	USE THIS AMOUNT OF PRODUCT	AT THE INDICATED RATE, ONE GALLON OF PRODUCT WILL TREAT:
0.07 lbs. AI/Acre	2.3 fluid oz./A	56 Acres
0.17 lbs. AI/Acre	5.4 fluid oz./A	23.5 Acres

ARIZONA ONLY- BOTTOM DEFOLIATION

Use this product to improve air circulation within the cotton canopy and reduce boll rot and hard lock caused by moisture under the canopy.

Time the date of application so that application equipment can enter the fields without causing damage to the cotton crop.

Apply 0.05 lb. AI/acre (1.6 fl. oz. this product /A); direct the sprays to the lower 1/3 part of the plants.

ARIZONA AND CALIFORNIA ONLY: PRECONDITIONING

Apply this product to pre-condition the cotton seven to ten days prior to application of other defoliant compounds and results in improved efficacy of the defoliant. Consult the label of the other defoliant prior to use, and observe all product label directions, specifications and prohibitions.

Apply this product at rates between 0.05 lb AI/A (1.6 fl. oz./A) and 0.1 lb. AI/A (3.2 fl. oz./A).

TANK MIXES**VACATE PLUS ETHEPHON-CONTAINING COMPOUNDS – BOLL OPENING**

Use of this product and VELOUR or equivalents will improve defoliation and speed the opening of mature bolls. For best results, apply to mature cotton plants (refer to the **APPLICATION TIMING** section of this label). Ensure a sufficient number of bolls have matured prior to application in order to achieve good cotton yields. Certified cottonseed producers should consult seed companies to determine the boll and seed maturity requirements for their varieties. Reduced defoliation or suppression of regrowth occurs if applications are made when nighttime temperatures are expected to be below 60 °F.

Apply this product at rates between 0.05 lb. AI/A (1.6 fl. oz./A) and 0.2 lb. AI/A (6.4 fl. oz./A) plus 1-2 lbs. AI/acre (32-64 fl. oz./A) of VELOUR.

The higher rates of this product are used when excessive regrowth is expected or if temperatures are between 60-65 °F.

VACATE PLUS ETHEPHON - ENHANCED DEFOLIATION

Use the lower rates of VELOUR or its equivalents plus this product to enhance defoliation without affecting boll opening. After this tank mix application, use VELOUR alone to promote boll opening but **DO NOT** apply more than 2.0 lb. AI/acre of VELOUR (approximately 42 fl. oz. of product) for all ethephon applications to cotton. Read and follow the VELOUR label directions, specifications and prohibitions.

Apply this product at rates between 0.05 lb. AI/A (1.6 fl. oz./A) and 0.2 lb. AI/A (6.4 fl. oz./A) plus 0.25 lbs. AI/acre (32-64 fl. oz./A) of VELOUR. The higher rates of this product are used when excessive regrowth is expected or if temperatures are between 60-65 °F.

VACATE PLUS TRIBUFOS PRODUCTS (DEF®/FOLEX®) – NOT FOR USE IN CAMERON, HIDALGO, STARR AND WILLACY COUNTIES OF THE STATE OF TEXAS

If plants are treated when growing under less favorable conditions, such as when overnight temperatures are expected to be below 60 °F one day prior to and three days after application, use this product and DEF® 6/ FOLEX® 6 EC tank mixes for improved regrowth suppression and defoliation. For optimum results, apply the tank mix to cotton plants that have at least 60% open bolls.

Apply this product at rates between 0.05 lb. A/A (1.6 fl. oz./A) and 0.2 lb. A/A (6.4 fl. oz./A) plus DEF® 6 at 0.5- 2.0 pints per acre.
Apply this product at rates between 0.05 lb. A/A (1.6 fl. oz./A) and 0.2 lb. A/A (6.4 fl. oz./A) plus FOLEX® 6 EC at 0.5-2.0 pints per acre.
The higher rates of this product are used when excessive regrowth is expected.
The lower rates of DEF® 6/ FOLEX® 6 EC are used when nighttime temperatures are expected to be 65 °F or above. Use the higher rates if conditions are not ideal.
If a second application of this tank mix is necessary, **DO NOT** exceed a total of 0.3 lb. A/acre (9.6 fl. oz./A) of this product.
Read and follow the DEF® 6 and FOLEX® 6 EC label directions, specifications and prohibitions.

NOTE: Use caution when tank mixes of phosphate defoliant plus this product are applied at the highest use rates and during extremely high temperatures since leaf desiccation occurs.

PREPARATION OF TANK MIXES OF VACATE PLUS DEF® 6/ FOLEX® 6 EC

Use the directions below to prepare tank mixes of this product plus DEF® 6/ FOLEX® 6 EC:

1. Add one-half the amount of water required to the spray applicator tank.
2. Begin agitation and continue through addition and application steps.
3. Add the required amount of this product and agitate to ensure complete mixing with water.
4. Add the required amount of DEF® 6 or FOLEX® 6 EC to the spray tank.

SPRAY TANK CLEANOUT INSTRUCTIONS

IMPORTANT: Residues form in the spray equipment of tank mixes of this product plus organophosphates. The residues can be removed using a commercial tank cleaner as long as the spray equipment is cleaned while the residue is still fresh and moist.

DO NOT ALLOW SPRAY EQUIPMENT TO DRY BEFORE CLEANING.

Consult your State Extension Cotton Specialist for instructions on using tank cleaners and cleaning procedures.

Immediately after application, flush the entire system (nozzles, booms, application tanks, sumps, pumps, and transfer lines, etc.) using a tank cleaner and water. Should the spray solution be allowed to dry in the application equipment, the residues will be more difficult to remove. Use the commercial tank cleaner diluted with water to completely fill the equipment and let it stand for 7 days. Then, completely flush and rinse all equipment with water. If spray application equipment is not thoroughly cleaned, residues of this product will remain and be released during subsequent applications and lead to crop damage. To the extent consistent with applicable law, Innvictis assumes no liability for crop damage due to spray equipment that has not been properly cleaned before re-use.

STORAGE AND DISPOSAL

DO NOT contaminate water food or feed by storage or disposal.

PESTICIDE STORAGE Store product at temperature less than 100 °F Re-mix product prior to use if product is exposed to freezing conditions.

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

CONTAINER HANDLING

NOTE This product is available in multiple containers Refer to the Net Contents section of this products labeling for the applicable Nonrefillable or Refillable designation. Follow the container handling instructions below that apply to your container type/size.

Nonrefillable Containers 5 Gallons or Less

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.

Nonrefillable containers larger than 5 gallons

Nonrefillable container: **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows**, empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank- 3 or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available 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.

Refillable containers larger than 5 gallons

Refillable container: Refill this container with pesticide only, **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water, Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of INNVICTIS CROP CARE, LLC or Seller, TO THE EXTENT CONSISTENT WITH APPLICABLE LAW All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold INNVICTIS CROP CARE, LLC and Seller harmless for any claims relating to such factors.

INNVICTIS CROP CARE, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or INNVICTIS CROP CARE, LLC, and TO THE EXTENT CONSISTENT WITH APPLICABLE LAW Buyer and User assume the risk of any such use. INNVICTIS CROP CARE, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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