

#### U.S. ENVIRONMENTAL PROTECTION AGENCY

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

EPA Reg. Number:

Date of Issuance:

34704-871 NOV 2 4 2004

Terms of Issuance: Conditional

Name of Pesticide Product:

TAKEDOWN SC **COTTON DEFOLIANT** 

NOTICE OF PESTICIDE:

X Registration

Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Loveland Products Inc.

P.O.Box 1286

Greenley, CO 80632-1286

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 registered in accordance with FIFRA sec.3(c)(7)(A)provided that you.

- Make the following label changes:
  - At the beginning of the list of Personal Protective Equipment (PPE) within the Precautionary Statements, add the statements "Some of the materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart." addition, revise the requirement for "waterproof gloves" to a requirement for "chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride."

(Comments continued on the next page for this Notice of Registration)

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 under the enclosed stamped copy of the label constitutes acceptance of these conditions

Signature of Approving Official:

NOV 24 2004

### 2/5

B. Within the list of PPE for early re-entry in the Agricultural Use Requirements box, revise the requirement for "waterproof gloves" to a requirement for "chemical-

resistant gloves made of any waterproof material."

- C. It is recommended that "Tank Mix of Takedown SC Plus Prep for Defoliation Enhancement" read as follows (beginning with the second sentence): Prep may still be applied as a sequential treatment for boll opening following an application of Takedown SC plus at a defoliation enhancement rate. Read and follow the Prep label, and do not exceed a maximum of 2.0lb. ai/acre for combined uses of PREP per acre per year.
- D. It is recommended that the following sentence be added to the first paragraph under Important Cleanout Instructions: Consult your State Extension Cotton Specialist for recommended tank cleaners and cleaning procedures.
- E. Add the enclosed Spray Drift Management text to the label.
- F. Add your EPA establishment number and net contents to the label.
- G. Revise the EPA Registration Number to read, "EPA Reg. No. 34704-871.
- 2. Submit and/or cite all data required for the registration/reregistration of this product when the Agency requires all registrants of similar products to submit data.
- 3. Submit one (1) copy of the final printed labeling before you release this product for shipment.

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

# ACCEPTED with COMMENTS In EPA Letter Dated:

NOV 2 4 2004

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

# COTTON DEFOLIAN

34704-871

#### FOR AGRICULTURAL USE ONLY

ACTIVE INGREDIENT:	
Thidiazuron (N-phenyl-N'-1,2,3-thiadiazol-5-ylurea)*	2.4%
INERT INGREDIENTS:57	6%
TOTAL 100	

\*Not less than 4.0 lbs of thidiazuron per gallon.

# CAUTION—CAUCION

09004

## 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, and 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 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.

#### **USER SAFETY RECOMMENDATIONS**

Users should:

Wash hands before eating, drinking, chewing gurn, using tobacco, or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### FIRST AID

If swallowed:	- Immediately call a poison controt center or doctor for treatment advice Do not induce vomiting unless told to do so by a poison control center or doctor Have person sip a glass of water if able to swallow 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 for 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 five minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

FOR A MEDICAL EMÉHGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

#### **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.

#### 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 protections 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, and shoes plus socks.

#### **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.

#### STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store at temperatures below 100°F. If allowed to freeze, remix before using.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be dis-

posed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). The offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration if allowed by state and local authorities, by burning. If burned, stay out of smoke.

RETURNABLE - REFILLABLE CONTAINERS: This material may be repackaged in refillable containers by Loveland Products, Inc. or a registered establishment under contract to Loveland Products, Inc. After use, return the container to the point of purchase or designated locations. This container must only be refilled with Thidiazuron SC. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return it to the point of purchase.

DO NOT REUSE EMPTY CONTAINER.

#### **GENERAL INFORMATION**

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

#### **USE PRECAUTIONS**

Do not apply Takedown SC through any type of irrigation system.

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

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

#### TAKEDOWN™ SC EPA REG. NO. 34704-

Do not plant the following crops earlier than the specified periods after the application of Takedown SC

Small grain, sorghum, corn or root crops (except carrots, onions, and sugar beets) Legumes (including alfalfa) . ..... two (2) months or leafy vegetables (except lettuce and spinach) Sugar beets ..... four (4) months Carrots, onions, or spirach ..... nine (9) months .... nine (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 detoliate as Takedown SC may injure or detoliate other crops.

Particular care should be taken when applying Takedown SC adjacent to lettuce, citrus, or cantaloupe. Tank mixes with organophosphates may increase non-target crop phytotoxicity

#### PRACTICES TO LOWER THE POTENTIAL FOR DRIFT ONTO NON-TARGET CROPS

During applications, particularly under windy conditions, Takedown SC may drift to non-target grops.

To help reduce the drift potential, use the following practices:

- . Do not apply Takedown SC by ground or air when wind speeds exceed ten (10) mile per hour at the time of applications. Follow local recommendations if wind speeds of less than ten (10) mile per hour are specified in those recommendations.
- · Use of low nozzle pressure (20-30 psi) is recommended.
- . Do not apply Takedown SC when a temperature inversion is present or when conditions favor an inversion prior to completing application(s).
- Additionally, do not apply Takedown SC by air within one-half (1/2) mile of lettuce. Do not apply Takedown SC 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 Takedown SC 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 Takedown SC when a temperature inversion is present or when conditions favor an inversion prior to completing applications(s).
- · Use the largest nozzle orifice possible, which permits proper deposition and coverage of product.
- . In addition, for citrus crops, do not apply Takedown SC 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 (1/2) mile downwind of the point of application.

#### TIME OF APPLICATION

Apply Takedown SC 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 Takedown SC at least 5 days prior to anticipated harvest.

NOTE: Good defoliation with Takedown SC is dependent upon three factors:

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

Use of Takedown SC alone (without a tank mix partner) when nighttime temperatures are expected to fall below 60°F can result in less than desirable detoliation and/or regrowth inhibition.

Performance of Takedown SC is variable under low temperatures, ideally, nighttime temperatures 2-3 days prior to and following application should be above 60°F or total defoliation and regrowth inhibition can be reduced

Use of Takedown SC 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 Takedown SC 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 tissues is not recommended.

#### MIXING INSTRUCTIONS

Fill the spray tank with one-half of the total amount of water to be used. Begin agitation and add the recommended amount of Takedown SC. Fill the tank with the additional quantity of water required. Maintain sufficient agitation to ensure a uniform spray mixture during application.

#### Tank Mix Adjuvants

When using tank mixes of Takedown SC and organophosphates, the use of a surfactant or compatibility agent is recommended to improve tank clean-out and overall detoliation. Prior to mixing in the spray tank, a small-scale compatibility test should be conducted.

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

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

#### **APPLICATION**

Use the specific dosage of Takedown SC in sufficient amount of water to give complete coverage of the foliage with uniform wetting of leaf surfaces. Apply in 10-25 gallons of spray per acre by ground equipment and 3-10 gallons per acre by air. Agitate the spray mix during application.

#### DOSAGE

One gallon of Takedown SC treats 20-40 acres (0.1-0.2 lb. active ingredient/acre). Use the higher rates during periods of low temperatures (60° to 65°F). Two applications not exceeding a total of 9.6 ounces (0.3 lb. active ingredient/acre) may be necessary to detotiate rank cotton.

Bottom Defoliation For Use in Arizona Only: Takedown SC may be used as an aid to improve air circulation and help reduce boll rot caused by moisture.

Apply Takedown SC at 1.6 ounces (0.05 lb. active ingredien/acre) formulated product per acre.

Application to bottom 1/3 of plant only 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: Takedown SC may be used as a pre-conditioner to enhance the activity of a detoliant application.

Apply Takedown SC at 1.6 - 3.2 ounces (0.05 - 0.2 lb. active ingredient/acre) formulated product per acre.

Timing of application is recommended to be 7-14 days prior to the use of another defoliant. Refer to the second product label prior to use for complete recommendations

Tank Mix Of Takedown SC Plus Prep® Or Finish® For Boil Opening: The tank mix of Takedown SC plus Prep® or Finish® 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 cottonseed producers should determine boll and seed maturity prior to treatment.

Apply Takedown SC at a rate of 1.6-6.4 ounces (0.05 - 0.2 lb. active ingredient/acre) formulated product plus Prep® at 1.0-2.0 lbs. active ingredient per acre or Finish® at 1.0-1.5 lbs. active ingredient per acre. The higher rate of Takedown SC should be used where excessive regrowth is anticipated, or during cooler temperatures.

Tank Mix of Takedown SC Plus Prep® For Defoliation Enhancement: Lower rates of Prepä may be tank mixed with Takedown SC to enhance defoliation without providing boll opening activity. Prep® may still be applied as a sequential treatment for boll opening following an application of Takedown SC plus Prep® per acre per year.

Apply Takedown SC at a rate of 1.6 - 6.4 ounces (0.05 - 0.2 lb. active ingredient/acre) formulated product plus Prep® at 1/3 pint per acre (0.25 tbs. active ingredient/acre). The higher rates of Takedown SC should be used where excessive regrowth is anticipated, or during cooler temperatures.

Tank Mix of Takedown SC Plus Def® 6 Or Takedown SC Plus Folex® 6 EC: The tank mix of Takedown SC and Def® 6 or Folex® 6 EC 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.

#### TAKEDOWN™ SC EPA REG. NO. 34704-

Best activity will be obtained when the tank mix is applied to mature cotton plants with 60% or more open bolls.

Rate Of Application

Takedown SC + Def® 6 =  $1.6 \cdot 6.4$  ounces Takedown SC +  $0.5 \cdot 2.0$  pints Def® 6. Takedown SC = Folex® 6 EC =  $1.6 \cdot 6.4$  ounces Takedown SC +  $0.5 \cdot 2.0$  pints Folex® 6 EC.

Higher rate of Takedown SC should be used where excessive regrowth is anticipated

Maximum rates of Takedown SC and phosphate defoliants applied in a tank mix during very high air temperatures can cause desiccation.

Use lower rate of Del® 6 or Folex® 6 EC under ideal nighttime temperature conditions (65°F); higher rate during less than ideal or adverse conditions.

When applying Det® 6 or Folex® 6 EC detollant plus Takedown SC as a tank mix, the following mixing sequence is recommended:

1. Add required water to spray tank, agitate

- 2. Add Takedown SC according to label directions (see mixing instructions)
- Add Del® 6 or Folex® 6 EC according to rate desired after Takedown SC has completely dispersed.

A second application of the labeled tank mix may be made where necessary, but not exceeding a total of 0.3 lb. active ingredient of Takedown SC per acre.

Refer to Def® 6 and Folex® 6 EC labeling for additional use directions and cautions when using tank mixtures of Takedown SC and those products.

DO NOT USE TANK MIX OF TAKEDOWN SC PLUS DEF® 6 OR FOLEX® 6 EC IN THE RIO GRANDE VALLEY COUNTIES OF STARR, HIDALGO, WILLACY, AND CAMERON.

#### IMPORTANT CLEANOUT INSTRUCTIONS

Tank mixes of Takedown SC 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 the 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 and water,

Should small quantities of Takedown SC remain in inadequately cleaned equipment, they may be released during subsequent applications and may cause damage to crops. Loveland Products, Inc. accepts no liability for damage to crops due to inadequately cleaned equipment.

#### SEQUENTIAL APPLICATION PRECAUTION

Do not apply sequential application of Takedown SC following any defoliant or desiccant except Takedown SC used alone or Takedown SC in tank mixes. Reduced activity of the second treatment will result.

#### WARRANTY DISCLAIMER AND NOTICE

THE DIRECTIONS FOR USE OF THIS PRODUCT ARE BELIEVED TO BE ADE-QUATE AND SHOULD BE FOLLOWED CAREFULLY, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS INHERENTLY ASSOCIATED WITH THE USE OF THIS PRODUCT. CROP INJURY, INEFFECTIVENESS, OR OTHER UNINTENDED CONSEQUENCES MAY RESULT DUE TO SUCH FACTORS AS WEATHER CON-DITIONS, PRESENCE OR ABSENCE OF OTHER MATERIALS, OR THE MAN-NER OF USE OR APPLICATION, ALL OF WHICH ARE BEYOND THE CONTROL OF LOVELAND PRODUCTS, INC., THE MANUFACTURER OR SELLER.

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Folex and Finish are registered trademarks of Aventis Group.

Prep is a trademark of the Aventis Group.

Del 6 is a registered trademark of Bayer Corporation, Agricultural Chemical Division.

Takedown is a trademark of Loveland Products, Inc.

FORMULATED FOR



P.O. BOX 1286, GREELEY, COLORADO 80632-1286