

264-730 8.10.2010

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

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

Laura Phelps  
Bayer CropScience  
P.O. Box 12014  
Research Triangle Park, NC 27709

AUG 10 2010

Subject: Label Amendment (container handling PRN 2007-4)  
Def 6 Emulsifiable Defoliant  
EPA Reg. No. 264-730  
Application Dated June 16, 2010

Dear Ms. Phelps:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable, provided you make the following changes:

1. Change the ACTIVE INGREDIENT name to "**Tribuphos: S,S,S-Tributyl phosphorotrithioate**".
2. Change the heading from "INERT INGREDIENTS" to "**OTHER INGREDIENTS**".
3. Under OTHER INGREDIENTS, add the heading so it reads "**TOTAL: .....100%**".
4. Under IF IN EYES, change the phrase to "then continue rinsing eye."
5. Based on the acute toxicity categories for this product, the PPE section must be changed to read as follows:

**"Personal Protective Equipment (PPE)**

Some materials that are chemical resistant to this product are **made out of barrier laminate, butyl rubber, nitrile rubber, or viton**. If you want more options, follow the instructions for category F on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:**

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves,
- Chemical-resistant footwear plus socks,
- Protective eyewear,

- Chemical-resistant headgear for overhead exposure, and
  - Chemical-resistant apron when cleaning equipment, mixing, or loading.
6. On page 2, remove the redundant paragraph with the text “Discard clothing and other absorbent materials...Keep and wash PPE separately from other laundry.”
  7. Under ENVIRONMENTAL HAZARDS, change the phrase to “equipment washwaters **or rinsate.**”
  8. On page 2, remove the redundant text “Do not enter or allow workers entry into treated areas during the restricted entry interval (REI) of 7 days.” since it is properly stated in the Agricultural Use Requirements box.
  9. On page 2, change the heading from “General Application Restrictions” to “**Application Restrictions**”.
  10. On page 4, change the font size and capitalize the headings for “PESTICIDE STORAGE” and “PESTICIDE DISPOSAL” so that it is consistent with the CONTAINER DISPOAL heading.
  11. On page 5, change the heading from “GENERAL INFORMATION” to “**PRODUCT INFORMATION**”, and the heading from “GENERAL USE RESTRICTIONS” to “**USE RESTRICTIONS**”.
  12. On page 5 under USE RESTRICTIONS, change the restriction from “DEF 6 may not be applied within seven (7) days of harvest.” to “**Do not apply DEF 6 within seven (7) days of harvest.**”
  13. On page 5 under DEF 6 Alone and DEF 6 Tank Mixtures, change the phrase from “recommended amount of DEF 6” to “**specified amount of DEF 6**”.
  14. On page 8 under Dropp Remarks, change the phrase from “recommended use rates” to “**specified use rates**”.
  15. On page 9, make the following changes to the warranty and liability statements:
    - a. “The directions for use of this product are believed to be adequate and **must** be followed carefully.”
    - b. “**To the extent consistent with applicable law**, all such risks shall be assumed by the user or buyer.”
    - c. “**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED...**”

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- d. **“TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE DISCLAIMS ANY LIABILITY WHATSOEVER...”**
  - e. **“TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES...”**
16. On page 9, revise the Net Contents so that it is either left blank or list all of the possible content sizes for this product. Please note that the actual product label must include the appropriate net content information.

A stamped copy of your label is enclosed for your records. This label supercedes all previously accepted labels. You must submit one (1) copy of the final printed label before you release the product for shipment. Products shipped after eighteen (18) months from the date of this letter or the next printing of the label, whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA §6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Sincerely,

*Mindy Ondrich for*

Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

ACCEPTED  
with COMMENTS  
in EPA Letter Dated  
AUG 10 2010  
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# Def<sup>®</sup> 6 Emulsifiable Defoliant

## Very Low Odor

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

264-730

**For fast and effective cotton defoliation.**

**ACTIVE INGREDIENT:**

S,S,S-Tributyl phosphorotrithioate ..... 70.5%

**INERT INGREDIENTS:**..... 29.5%

Contains Petroleum Distillates. 100.0%

Contains 6 lbs tribufos: S,S,S-Tributyl phosphorotrithioate per U.S. gallon.

**EPA Reg. No. 264-730**

**EPA Est. No.**

### STOP - READ THE LABEL BEFORE USE

### 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 the label, find someone to explain it to you in detail.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577  
For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

#### FIRST AID

<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <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>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

**For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.**

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

**To Physician:** This product inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system and the somatic motor nerves. Poisoning with this product also results in cardiovascular and respiratory symptoms which must be treated as separate pathological entities apart from the cholinergic effects.

Use atropine sulfate to reverse cholinergic symptoms; maintain a systematic, symptomatic treatment of the cardiovascular and respiratory effects, even though the cholinergic symptoms have ceased. Do not give central nervous system depressants. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 12 hours. The use of oxygen is recommended in case of respiratory distress.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER:** Corrosive. Causes burns to the skin and irreversible eye damage. May be fatal if swallowed. Harmful if inhaled or absorbed through the skin. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist.

**Personal Protective Equipment:**

Protective Eyewear

Long-sleeved shirt and long pants

Shoes plus socks

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F on an EPA chemical- resistance category selection chart.

**Mixers, loaders, applicators, flaggers, and other handlers must wear:**

- long-sleeve shirt and long pants
- shoes plus socks

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.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS STATEMENTS:**

Mixers and loaders supporting aerial applications must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)] for providing dermal protection. The system must be capable of removing the pesticide from the shipping container and transferring it into mixing tanks and/or application equipment. At any disconnect point, the system must be equipped with a dry disconnect or dry couple shut-off device that is warranted by the manufacturer to minimize drippage to not more than 2 ml. per disconnect point. In addition to wearing the specified PPE, all handlers of this product must wear chemical resistant gloves and a chemical resistant apron."

Persons using a closed system that operates under pressure shall wear protective eyewear.

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)].

### User Safety Recommendations

**User 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.

Users should 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.

### ENVIRONMENTAL HAZARDS

This product is toxic to terrestrial and aquatic plants, fish and aquatic invertebrates. 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 apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

**Physical or Chemical Hazards**

Combustible: Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not enter or allow workers entry into treated areas during the restricted entry interval (REI) of 7 days.

**General Application Restrictions**

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. Cotton treated with this product must be mechanically harvested. Hand harvesting is prohibited.

## AERIAL SPRAY DRIFT MANAGEMENT

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 and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

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.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory Information](#).

**Aerial Drift Reduction Advisory:** This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on 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 produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce 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 largest 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 downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

**Wind:** Drift potential is lowest between wind 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 the 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).

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### 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 7 days.

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 over long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or viton
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in a cool, dry place, away from open flame and extreme heat, and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If container is leaking invert to prevent leakage.

If the container is leaking or material is spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type materials and dispose of as directed below. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer CropScience Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer CropScience Emergency Response Telephone No. is 1-800-334-7577.

**Pesticide Disposal:** Pesticide wastes are toxic. 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

##### **Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)**

Non-refillable 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 and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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. Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill.

##### **Rigid Non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs)**

###### **Non-refillable Containers**

Non-refillable containers - Do not reuse or refill this container. Refer to Bottom Discharge IBC or Top Discharge IBC, Drums, Kegs information as follows.

###### **Bottom Discharge IBC (e.g. – Schuetz Caged IBC or Snyder Square Stackable)**

Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. To pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

###### **Top Discharge IBC, Drums, Kegs (e.g.– Snyder 120 Next Gen, Bonar B120, Drums, Kegs).**

Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. To triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times. Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill.

###### **Refillable Containers**

Refillable container – Refer to Bottom Discharge IBC or Top Discharge IBC, Drums, Kegs information as follows. Refill this container with pesticide only. Do not reuse this container for any other purpose. After emptying product from container, either return container to Bayer CropScience per instructions from Bayer CropScience Customer Service Center (1-800-527-4781) or rinse and either recycle or dispose of the container as follows:

**Bottom Discharge IBC (e.g. – Schuetz Caged IBC or Snyder Square Stackable)**

Pressure rinsing 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 pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

**Top Discharge IBC, Drums, Kegs (e.g.– Snyder 120 Next Gen, Bonar B120, Drums, Kegs).**

Triple rinsing 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 triple rinse the containers before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times. Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill.

**Refillable Containers**

End users are authorized to remove tamper evident cables as required to remove the product from the container unless the container is equipped with one way valves and refilling or returning is planned. If this is the case, end users are not authorized to remove tamper evident cables, one way valves or clean container. See Container Disposal instructions under Storage and Disposal.

**GENERAL INFORMATION**

DEF 6 is a cotton defoliant which may be used for the removal of leaves from cotton plants prior to the anticipated harvest of the crop. DEF 6 contains six (6) pounds of active ingredient per gallon. It is non-corrosive and non-clogging to spray equipment and does not constitute a fire hazard.

DEF 6 must be applied in sufficient amounts of spray carrier to provide thorough coverage of leaves. DEF 6 treated leaves do not appear affected until defoliation actually begins and the leaves drop in a green condition. Under favorable conditions, defoliation of cotton normally occurs within four to seven days following application. Adverse conditions such as low temperature (especially temperatures below 60 °F at night), low humidity or plant stress may extend the defoliation time to nine to fourteen days. Under these adverse conditions, use the higher recommended DEF 6 rate and/or use diesel oil rather than water as the spray carrier.

Heavy rainfall during or immediately following a DEF 6 application may result in reduced performance. Application is not recommended when a heavy rainfall is expected within one hour after treatment. Dew on the plant leaves at time of application should not affect performance.

DEF 6 does not suppress second growth (regrowth), especially where rainfall follows defoliation. A second application of DEF 6 or a tank mixture of DEF 6 with recommended labeled cotton harvest aid products will be effective for defoliation of the second growth if excessive second growth has occurred.

DEF 6 may be used alone for bottom defoliation or for general plant defoliation. DEF 6 may also be applied in tank mixture with recommended registered products for enhanced cotton harvest aid activity.

**GENERAL USE RESTRICTIONS**

Do not apply more than 1 1/2 pints (1.125 lbs ai/A) of DEF 6 per acre per crop season in all States except California and Arizona.

Do not apply more than 2 1/2 pints (1.875 lbs ai/A) per acre per crop season in California and Arizona only.

DEF 6 is suitable for use in all power-operated ground and aircraft sprayers. Do not apply DEF 6 through any type of irrigation equipment.

Do not use DEF 6 on any other crop except cotton. Avoid spray drift to susceptible plants, as this product may injure or defoliate other crops.

Do not graze treated fields.

DEF 6 may not be applied within seven (7) days of harvest.

Observe all labeling cautions and limitations of all products used in tank mixtures.

**MIXING INSTRUCTIONS**

Compatibility of DEF 6 or its labeled tank mix products should always be predetermined prior to mixing. Refer to the COMPATIBILITY SECTION of this label for further details.

**DEF 6 Alone:** Fill the spray tank 1/2 to 3/4 full of clean water. Initiate the recirculation and agitation system and add the recommended amount of DEF 6. Continue sufficient agitation from the time of mixing through application to ensure a uniform spray mixture. Follow the same mixing instructions when diesel oil is substituted for water.

**DEF 6 Tank Mixtures:** Fill the spray tank 1/2 to 3/4 full of clean water and begin the sprayer recirculation and agitation system. If tank mixing with wettable powders or other dry products, make a slurry of these products with water and add slurry slowly to the spray tank. Next add the recommended amount of DEF 6. If mixing spray adjuvants in the mixture, add them after all other products have been mixed. Fill the spray tank to the desired level with water and continue agitation during transport and application until the spray tank is empty. Follow the same mixing instructions when diesel oil is substituted for water.



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**Addition of Adjuvants:** To improve spray coverage, DEF 6 may be applied with the following types of adjuvants: 1) commercial blends of vegetable or petroleum-based oils, 2) non-ionic surfactant and 3) diesel oil (if allowed by local regulations). Adding or using diesel oil (3 to 5 gallons by air or a minimum of 5 gallons by ground) may be helpful when night temperatures drop below 60 oF, plants are under moisture stress, or on storm-proof cotton varieties. Use only those adjuvants which are exempt from tolerance requirements under 40 CFR 180.1001.

**Compatibility:** To determine the compatibility of DEF 6 with other products, do the following: 1) pour the recommended proportions of the products into a suitable container of water, 2) mix thoroughly and 3) allow to stand at least five minutes. If the combination remains mixed or can be re-mixed readily, it is considered physically compatible. For further information contact your local Bayer CropScience representative.

#### **SPRAY EQUIPMENT CLEANING AND DECONTAMINATION**

Immediately after applying DEF 6 alone or in tank mixtures, remove all unused spray mixture and follow directions on this label for disposal. Do not allow the pesticide mixtures to dry in the spray equipment. Dried pesticide residues may become resuspended and damage other crops if uncleaned spray equipment is used to apply other products during the same or the following year.

Thoroughly clean the spray tank, lines, nozzles and exterior surfaces of equipment immediately before and after applying DEF 6 alone or tank mixtures and before using the spray equipment the following year. Use a cleaner such as "Spic and Span," "Fantastic," or "Formula 409." Remove dried deposits from the exterior surfaces, especially aircraft fabric. This cleaning is particularly important if the spray equipment has been used to apply Dropp 50WP or products containing chlorates. Follow directions on this label for disposal of wash and rinse water.

#### **APPLICATION PROCEDURES**

DEF 6 alone may be applied with all suitable power operated ground and aircraft sprayer. If applying DEF 6 in tank mixture, refer to the application procedures of the tank mix partner and following the most restrictive label. Do not apply DEF 6 through any type of irrigation system.

**Ground Application:** Use spray equipment that provides a uniform and accurate application. A minimum spray volume of 10 gallons per acre is recommended when DEF 6 is applied with water and a minimum of 5 gallons per acre is recommended when DEF 6 is applied in diesel oil.

**Aerial Application:** Use aerial equipment calibrated to provide accurate and uniform spray coverage and application rates and to minimize the potential for spray drift. Do not apply when wind may cause drift.

A minimum spray volume of 5 gallons per acre should be used when DEF 6 and tank mixtures with DEF 6 are applied with water. DEF 6 alone may be applied in a minimum of 3 gallons of spray volume per acre when using diesel oil (minimum of 5 gallons per acre in California).

Aerial applicators must be in enclosed cockpits.

#### **USE RATES**

Use the specified use rate of DEF 6 in water or once refined vegetable oil or diesel oil. Apply sufficient spray to ensure uniform leaf wetting. All leaves must be treated for complete defoliation. DEF 6 does not suppress secondary growth.

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APPLICATION RATES				
CROP	DEF 6 RATE Pints/acre	MINIMUM WATER SPRAY VOLUME*		
		Gallons per Acre		
		AIR	GROUND	
<b>Cotton</b>	CA & AZ	1 1/3 to 2	5	15
	All Other States	1 1/3 to 1 1/2		
	GENERAL PLANT DEFOLIATION <sup>a</sup> Apply specified dosage per acre to give thorough coverage of leaves when at least 50% of bolls are open, or according to local recommendations for Node Above Cracked Boll (NACB). For LV/ULV application, use not less than 1 1/2 pints per acre of once refined vegetable oil. For rank cotton, see below.			
All States	1 to 1 1/2	-	10	
	BOTTOM DEFOLIATION <sup>b</sup> Apply specified dosage (the rate should be proportional to the fraction of the plant being defoliated) per acre with spray directed only to the lower part of the plant where mature bolls are found.			
<b>Rank Cotton</b>	CA & AZ	2 1/2	5	15
	All Other States	1 1/2		
	RANK COTTON DEFOLIATION Apply specified dosage per acre to give thorough coverage of leaves when at least 50% of bolls are open, or according to the local recommendation for Node Above Cracked Boll (NACB). The total rate may be applied in one or two applications (2 to 6 weeks apart) either alone or in an approved tank mix. To achieve more complete general plant defoliation, especially when using the 1 1/2 pints, use with an approved tank mixture is highly recommended. For LV/ULV applications, a maximum of 2 1/2 (CA,AZ) or 1 1/2 (all other states) pints per acre of DEF 6 per use season may be applied in not less than 1 1/2 pints per acre of once refined vegetable oil.			
<b>Long Staple Cotton</b> (including Pima)	CA & AZ	2 to 2 1/2	5	15
	All Other States	1 1/2		
	LONG STAPLE (INCLUDING PIMA) COTTON DEFOLIATION Apply specified dosage to mature cotton plants with 50% or more open bolls. For best results on pima cotton, use in tank mix combination with 0.2 to 0.4 lb Dropp 50 WP per acre when 60% or more bolls are open.			

<sup>a</sup> General Plant Defoliation: Apply to mature cotton plants when 50% or more of the bolls are open and 7 to 10 days prior to anticipated picking. Plants are considered mature if the youngest bolls 1) cannot be dented by pressure between the thumb and forefinger or 2) cannot be cut through easily with a sharp knife.

<sup>b</sup> Bottom Defoliation: Losses from rot and weathering may be reduced by using DEF 6 to increase air movement and sunlight to bottom bolls. Use shielded drop nozzles to direct sprays to the lower leaves. By removing the picker's top 8 to 12 rows of spindles, the exposed bolls may be harvested. The picker will not injure the untreated top leaves and immature bolls. DEF 6 may be applied for entire plant defoliation when top bolls are mature.

\* If using diesel oil as the spray carrier, refer to the APPLICATION PROCEDURES section for minimum spray volume information.

**TANK MIX PARTNERS**

DEF 6 may be applied in tank mixture with additional registered cotton harvest aid products to enhance cotton desiccation, defoliation and/or regrowth control. They may be applied with similar timings and methods as DEF 6 alone unless specifically prohibited in the mix partner product label. In some cases, cotton harvest aid performance may be affected by the temperature sensitivity of the tank-mix partner. Refer to the individual product labels for additional information on use rates, precautions and/or restrictions. The following products are recommended for tank mixtures with DEF 6:

Accelerate	Dropp	Harvade	Roundup
Boll'd	Ethephon 6	Prep	Roundup Ultra
Cotton Aide	Finish	Prep PC	Starfire
CottonQuik	Ginstar	Quik Pic	SuperBoll
Cyclone	GK Prep		

TANK MIX PARTNERS		REMARKS
Dropp		Use 1 to 1 1/2 pints of DEF 6 plus 0.066 to 0.1 lb of Dropp 50 WP for defoliation and inhibition of secondary growth (regrowth). Tank mix activity is maximum when 60% of more bolls are open and the mean 24-hour temperature before and after application is above 60° F.  Adverse conditions may require 1) use of the maximum dosage, 2) a second application or 3) longer time for complete defoliation.  Mix DEF 6 and Dropp 50 WP combinations in the following order: 1) water, 2) Dropp 50 WP (as per label), 3) after Dropp 50 WP has completely dispersed add DEF 6 and 4) adjuvant (if used). Do not apply this combination to immature cotton (< 60% open boll) or at higher than recommended use rates as desiccation and leaf freezing may occur.  When used in citrus growing areas, observe buffer zones restrictions. Refer to the Dropp 50 WP label for additional precautions, restrictions or comments.
Accelerate Boll'd Cotton Aide CottonQuik Ethephon 6	Finish GK Prep Prep PC Prep SuperBoll	Tank mix with DEF 6 at 1 to 1 1/2 pints per acre for enhanced speed of defoliation and cotton boll opening. Refer to the tank mix partners label for the use rates, precautions, restrictions and additional comments.
Cyclone Ginstar Harvade	Quik Pic Starfire	Tank mix with DEF 6 at 1 to 1 1/2 pints per acre for enhanced desiccation of cotton and certain weed species. Refer to the tank mix partners label for use rates, precautions, restrictions and additional comments.
Roundup Roundup Ultra		In states where permitted, tank mix with DEF 6 at 1 to 1 1/2 pints per acre for enhanced defoliation, regrowth control and additional late season weed control. Refer to the tank mix partners label for use rates, precautions, restrictions and additional comments.

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**IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

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**Net Contents: 2.5 Gallons**

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Def 6 Emulsifiable Defoliant (PENDING) 06/28/10