

Ethephon 6

**FOR COMMERCIAL USE OR AGRICULTURAL USE ONLY
NOT FOR RESIDENTIAL USE**

Active Ingredient:

Ethephon (2-Chloroethyl) phosphonic acid* 55.4%

Inert Ingredients: 44.6%

Total: 100.0%

*This product contains 6 pounds ethephon per gallon

**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 this label, find someone to explain it to you in detail.)

See inside booklet for complete First Aid, Precautionary Statements, Directions for Use, and Warranty and Disclaimer Statement.

Manufactured For:
Arysta LifeScience North America, LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513

EPA Reg. 66330-250
EPA Est. 70815-GA-001
AD082405R1
103011—021412



Arysta LifeScience

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for at least 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.	
HOT LINE NUMBER	
EMERGENCY TELEPHONE NUMBERS: Have the product container or label with you when calling a poison control center or doctor or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952. FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.	

Precautionary Statements

Hazards to Humans and Domestic Animals

Danger: Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemically 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.

Applicators and other handlers must wear:

1. Coveralls over long-sleeved shirt and long pants.
2. Chemical-resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber, or butyl rubber.
3. Chemical-resistant footwear plus socks.
4. Protective eyewear.
5. Chemical-resistant headgear for overhead exposure.
6. Chemical-resistant apron when mixing or loading or cleaning equipment.

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 and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash body thoroughly and put on clean clothing.
3. 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

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 contaminate water used for domestic purposes or irrigation.

USE PRECAUTIONS

Do not plant another crop within 30 days after treatment.

When preparing a spray solution of this product, do not mix any more spray solution than is needed for applications to be made that day. When applications are finished for the day, dispose of any remaining spray solution in a manner as directed by this label.

Do not apply Ethephon 6 through any type of irrigation system.

Avoid spray drift to nearby crops, as this product will cause modifications in plant growth. Plant injury or reduced yields will result.

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

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

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. 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 $\frac{3}{4}$ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

AERIAL DRIFT REDUCTION ADVISORY

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 produces the largest droplets and the lowest drift.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than $\frac{3}{4}$ of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

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

SWATH ADJUSTMENT

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

WIND

Drift potential is lowest between 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 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, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment, notification to workers, and restricted-entry intervals. 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 48 hours.

The REI increases to 72 hours in outdoor areas where average rainfall is less than 25 inches a year.

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:

1. Coveralls over short-sleeved shirt and short pants.
2. Chemical-resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber, or butyl rubber.
3. Chemical-resistant footwear plus socks.
4. Protective eyewear.
5. Chemical-resistant headgear for overhead exposure.

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

STORAGE AND DISPOSAL

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

STORAGE

Store in a cool, dry place and away from food, feed and other pesticides.

TO CONTAIN A SPILL

Be sure to wear the following when dealing with a spill of this product: Goggles or face shield, long-sleeved shirt, protective gloves, and full-length trousers. Surround the spill with a barrier and then absorb liquid by covering it with cat litter, sand or a commercial clay. If the product container is damaged, place the entire container along with the product in a secure receptacle and clearly label the contents. For any type of product spill, avoid contact with the spilled product and evacuate the area, keeping all unprotected persons and animals at a safe distance.

PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. 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

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 $\frac{1}{4}$ 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. Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If container is burned, stay out of smoke.

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

Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. 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 $\frac{1}{4}$ 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

GENERAL INFORMATION

COTTON

Ethephon 6 used as a foliar spray will improve boll opening of mature bolls that are unopened and assist in overall defoliation, which can result in improved yields and earlier harvesting. Foliar sprays of Ethephon 6 promote once-over harvesting that can increase efficiency.

TOBACCO (FLUE-CURED)

A foliar spray of Ethephon 6 promotes early and uniform maturing of tobacco. Ethephon 6 reduces curing time, allowing more efficient use of curing barn space, and increased control over harvest schedules.

SPRAY PREPARATION

Begin by filling the spray tank with $\frac{1}{2}$ to $\frac{3}{4}$ of the necessary spray volume and begin agitation. The required amount of Ethephon 6 and remaining amount of water can then be added. Prepare only as much spray solution as can be used on the day the product and water are mixed. Do not allow spray solution to stand overnight. Prevent spillage of concentrated product onto airplane parts or spray equipment.

RINSE IMMEDIATELY ANY SPILLS WITH PLENTY OF WATER

Preparing spray solution in a nurse tank is recommended to prevent possible spills of concentrated formulation on any airplane parts or spray equipment.

TANK MIXTURES WITH DEFOLIANTS AND INSECTICIDES

When tank-mixing or applying products in conjunction with Ethephon 6, you must observe all applicable use precautions and recommended application rates on each product's label. This product, when tank-mixed with defoliants, may slightly inhibit boll-opening response.

Adequate agitation is essential in the spray tank. Tank mixtures need continuous agitation; do not allow to stand more than 5 to 10 minutes without agitation. Appropriate label use directions and precautions concerning defoliants and insecticides must be carefully read and observed.

IF COTTON IS TO BE SPINDLE PICKED DO NOT MIX WITH DESICCANTS.

ETHEPHON 6 WHEN TANK MIXED WITH SODIUM CHLORATE DEFOLIANTS FORMS HYPOCHLOROUS ACIDS THAT UPON HEATING EMIT TOXIC CHLORINE FUMES. TANK MIXES ARE PROHIBITED.

EQUIPMENT CLEANING

ETHEPHON 6 is an acid based product and prolonged exposure to deposits will cause damage to metals, acrylic plastics and certain paints.

Within an hour of any contact with spray deposits, you should carefully rinse all exposed acrylic plastic-type materials, like aircraft windshields, and painted surfaces with detergent and water.

When applications are complete for the day, you should carefully rinse any and all metal parts of the aircraft and any spray equipment that has been in contact with spray deposits with a detergent and water solution.

COTTON							
PRODUCTS USED	WEATHER CONDITIONS	RATE OF APPLICATION		ONE GALLON TREATS	SPRAY VOLUME		TIMING
		PT/A	LB AI	ACRES	GROUND	AIR**	
ETHEPHON 6*	80°F or higher, hot and dry	1 ½	1.0	6	10-50	2-5	Test for boll maturity* and when sufficient mature bolls for desired yield are present make application. Bolls open 7 to 14 days earlier when treated.
	75° to 80°F and Dry	2	1.5	4			
	Above 65°F but cool or Rank cotton	2 ½	2	3			
ETHEPHON 6 + FOLEX Defoliant Tank Mix	Cotton that is rank Or Has excess Fertility or Soil moisture	½	0.25	24	10-50	5-10	As a sequential treatment apply 5 to 7 days prior to Ethephon 6 boll opening application but NOT instead of the Ethephon 6 boll opening treatment.
ETHEPHON 6 + Thidiazuron	Cotton that is rank Or Has excess Fertility or Soil moisture	½	0.25	24	10-50	3-10	As a sequential treatment apply 5 to 7 days prior to Ethephon 6 boll opening application but NOT instead of the Ethephon 6 boll opening treatment.
Pre-Conditioner for Defoliation	Above 80°F, Hot and Dry	¾	0.5	12	15-50	2-5	This product should be used 5 to 7 days before use of a defoliant. Used to promote top crop defoliation to prevent bottom crop deterioration and allow earlier harvest.
	Above 65°F and Cool Or Rank cotton	1 ½	1.0	6			

* Use of Defoliant Prior to Ethephon 6:

A pretreatment with a defoliant will enhance spray coverage when using Ethephon 6 in a boll opening treatment on cotton that has excessive vegetative growth or otherwise is spread across the middles. Use boll opening rates of Ethephon 6 as recommended. Observe label recommendations for the defoliant used and follow all label directions and precautions.

** **NOTE:** For aerial applications in Arizona and California, use an application rate of at least 5 gallons of water per acre.

Boll Maturity

A boll is mature when it is difficult to make a crosswise cut with a sharp knife, and when the outer seed coat has changed from white to a tan or light brown color. In addition, when squeezed between the thumb and fingers, a mature boll will not dent.

Use Limitations

- Maximum labeled rate of Ethephon 6 is 2.0 lb ai/A for combined uses of Ethephon 6 (or other ethephon containing products) per acre per year. Do not exceed 2.0 lb ai/A.
- Boll Opening: If cotton is to be spindle picked do not mix with desiccants.
- Pre-Condition for Defoliation: Ethephon 6 and desiccants should not be tank mixed unless desiccation is desired. The use of a defoliant before there are sufficient mature unopened bolls can reduce expected yield (see General Information section on how to test for boll maturity).

When to Harvest

Allow 7 days after a treatment with Ethephon 6 before harvesting. Harvest may commence at the point of optimum boll opening; however, please note that premature harvesting could reduce the boll opening advantage of the treatment and a delayed harvest could reduce quality and affect total yield due to lint dropping from the plant.

TOBACCO (Flue-Cured Only)			
APPLICATION TYPE	RATE OF ETHEPHON 6 (PT/A)	SPRAY VOLUME (GAL/A)	REMARKS
Directed Spray	1 ½	50–60	Drop nozzles recommended. When selecting spray tips, use types TG or OC built to dispense 50-60 gallons of spray solution per acre at a tractor speed of 2-3 mph and a pressure of 35-40 psi. Place one nozzle on each side of the row and point the sprays at the leaves that are to be ripened and harvested, so as to ensure coverage. After this kind of application, it is essential to harvest any and all leaves showing yellowing of 20% or more.
Over-The-Top	1 ½–2 ½	40–60	Once the rest of the leaves on the stalk have reached maturity, you may make an Over-the-Top application. Follow directions as described under the section "Application Timing" to ensure that leaves are mature. When it appears that a normally mature crop requires some slight indcement in ripening, you may use the low usage rate. The high usage rate is advised under cooler than normal temperatures, and when plants have a predisposition to be rank and heavy. Test spray to verify maturity before spraying as outlined in "Applications Timing". Use three nozzles (one nozzle on each side of the row and one over the center of the row). Select nozzles that produce a fine mist and provide thorough coverage of all leaves, calibrated to apply appropriate volume at 40 to 60 psi.

USE LIMITATIONS

- Applications of Ethephon 6 to immature leaves can result in loss of weight, reduced leaf quality and standard coloring.
- Reduction in quality and yield may result from letting the crop over-ripen in the field following an application of this product.
- Treatment with Ethephon 6 should be delayed if inclement weather is expected that could prevent harvest.
- Applications of Ethephon 6 should not be made if rain is anticipated within 6 hours. Rainfall within this time period may reduce desired benefits.

APPLICATION TIMING

For the best results Ethephon 6 should be applied when leaves have reached maturity and are not overly rank and green. Treatment timing and the number of leaves per stalk ready for harvest can be determined by test spraying several plants in various portions of the field and observing the response. Yellowing of a mature leaf will begin in 24 to 72 hours. If within 72 hours treated leaves fail to yellow this is an indication that they are not mature and will not respond to Ethephon 6. Repeat above procedure after several days of natural maturing to verify proper application timing.

Determine the number of acres to be treated for available curing barn space by calculating the number of leaves per plant that will color.

TEST SPRAY MIXTURE DIRECTIONS: (1) Mix one tsp of this product into 1 qt of water. (2) Apply approximately 1 oz of this solution to every test plant. Be sure to cover each entire plant with a light mist. (3) If treated leaves do not color, then they are immature.

WHEN TO HARVEST

Coloring of all mature leaves will begin within 24 to 72 hours post application of Ethephon 6. Weather conditions such as hot and sunny conditions can speed up the process while cool weather will delay the yellowing process. Treated leaves can be harvested when desired color intensity has been achieved.

Do not allow tobacco to become over ripe before starting harvest. Leaf drop can occur when tobacco is over ripe and left on the stalk. If a number of the bottom leaves have yellowed at the time of treatment, they should be harvested prior to spraying with Ethephon 6.

With an over-the-top application, harvesting can begin 48 hours after Ethephon 6 application depending on weather conditions or to avoid over ripe tobacco. Tobacco harvested 48 hours after treatment may require more time in the coloring phase of the curing process.

CURING ETHEPHON 6 TREATED TOBACCO

Experience in the curing procedures can be helpful in assessing tobacco condition and the time interval between treatment and harvest. Curing facilities vary greatly and along with weather conditions must be included before prescription temperature and ventilations schedules can be implemented. During the stages of late coloring and early drying of the leaves, great care must be observed.

The coloring process of Ethephon 6 treated tobacco will have begun when harvested, which can reduce the coloring phase time of curing. Drying treated tobacco faster should be considered. Additional coloring time of a few hours may be required if tobacco leaves are green or contain some green when harvested. Temperature and ventilation should be adjusted to dry tobacco as fast as possible without scalding if the leaves were completely yellow at harvest.

Warranty and Disclaimer Statement

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer. Arysta 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 described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

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