

WILLOWOOD USA

WILLOWOOD MEPI CHLOR 4.2%

ACTIVE INGREDIENT:

*Mepiquat Chloride: N,N-dimethylpiperidinium chloride..... 4.2%

OTHER INGREDIENTS: 95.8%

TOTAL: 100.0%

*Contains 0.35 pounds active ingredient per gallon

EPA Reg. No. 87290-30

EPA Est. No. 19713-TN-007

Keep Out of Reach of Children
CAUTION-PRECAUCION

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.)

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 first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call 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 the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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
NOTE TO PHYSICIAN: No known antidote, treat symptomatically.	
EMERGENCY CONTACT: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Emergency Information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 , Mon. to Fri. 7:30 a.m. to 3:30 p.m. Pacific Time, or your poison control center at 1-800-222-1222 .	



Manufactured For:
 Willowood, LLC
 1600 NW Garden Valley Blvd. Suite #120
 Roseburg, OR 97471

Net Contents:
30 Gallons, 265 Gallons

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with eyes, skin, and clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some 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 selection chart.

Applicators and other handlers must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate
3. Shoes plus socks

USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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. 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, to areas where surface water is present or to intertidal area below the high water mark. Do not contaminate water when disposing of rinsate or equipment washwater. Do not contaminate water by cleaning of equipment or disposal of wastes.

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.

Do not apply this product through any type of irrigation system.

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 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 12 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:

1. Coveralls
2. Chemical resistant gloves made of any waterproof material
3. Shoes plus socks

PRODUCT INFORMATION

Willowood Mepi Chlor 4.2% is a foliar applied plant regulator. It allows the grower to manage the cotton plant for short-season production leading to reduced risk of yield and quality loss due to delayed and prolonged harvest. Benefits derived from the use of Willowood Mepi Chlor 4.2% include increased early boll retention and/or larger bolls, reduced plant height

which provides a more open canopy, less boll rot, improved defoliation, less trash and lower ginning costs, better harvest efficiency and a darker leaf color. These benefits can provide for earlier maturity and often result in improved yields.

Early Application of Willowood Mepi Chlor 4.2%

Growers may use low-rate multiple applications, or higher, less frequent applications which provide maximum flexibility under a wide range of growing conditions. Willowood Mepi Chlor 4.2% should not be applied to plants under stress. If stress is alleviated, plants should be evaluated for vegetative growth before additional applications are made. Willowood Mepi Chlor 4.2% may be tank mixed with insecticides/miticides when application timing coincides. (See **RESTRICTIONS AND LIMITATIONS** section)

Fields should be carefully scouted. Willowood Mepi Chlor 4.2% should not be applied if plants are under any form of stress. In the absence of stress, a maximum of five low rate applications can be made each season. The first application can be applied at the matchhead square stage. The rate and timing of subsequent applications depend on growing conditions and desired benefits. Under good growing conditions, additional treatments of 2-4 fl. oz. per acre can be made at 7-14 day intervals. Higher rates of Willowood Mepi Chlor 4.2%, 4 - 12 fl. oz./Acre ($\frac{1}{4}$ - $\frac{3}{4}$ pt./Acre), should be used if vegetative growth becomes excessive or a greater degree of height control is desired. Do not use more than a total of 48 fl. oz. (3 pts.) of Willowood Mepi Chlor 4.2% per acre in a growing season.

If significant loss of squares and/or young bolls has occurred earlier due to insect pressure or other stresses, but now these stresses have been alleviated, the need for Willowood Mepi Chlor 4.2% is increased - excess vegetative growth is likely because of poor boll load.

Late Season Application of Willowood Mepi Chlor 4.2%

Late application of Willowood Mepi Chlor 4.2% (approximately during the fourth to sixth week of blooming) can provide certain benefits to cotton. However, it should not and does not substitute for early season use, the time of the greatest benefit from the use of Willowood Mepi Chlor 4.2%. Late season application can lead to one or more of the following: reduction in late season vegetative growth or regrowth after cutout or defoliation, more complete and manageable cutout, better defoliation, earlier maturity and reduction in trash and lower ginning costs. Some of these effects may favorably influence the yield potential and fiber quality. A late season application of Willowood Mepi Chlor 4.2% should be applied only if fields are not drought or nutrient stressed; that is, those fields likely to experience additional vegetative growth or regrowth. However, fields that are very rank and extremely vigorous due to a combination of poor boll load and excellent growing conditions may not respond as much as desired to late season applications at the specified rates.

Timing for Late Season Applications

- A. On fields where cotton cuts out and then starts regrowth: apply when regrowth begins, as evidenced by new leaves in the terminal and stem elongation. This would often, but not always, be in the period of 5-6 weeks after the first bloom.
- B. On fields where cotton never completely cuts out, apply Willowood Mepi Chlor 4.2% when there are 4-6 nodes above the white flower (NAWF). Measure NAWF by counting the number of mainstem nodes from the first position white bloom (the one closest to the mainstem) to the terminal. Count the node with the first position white bloom as zero and the last node in the terminal which is counted should have a leaf at least the size of a quarter. Generally, the NAWF first reaches 4-6 during the fourth to sixth week of bloom. During this time period, the NAWF should be decreasing about one node every 5-6 days - if its rate of decrease is less, this means that the plant is not cutting out soon enough (the crop is too vigorous). If the fifth week of bloom arrives and NAWF is still above 5-6, apply Willowood Mepi Chlor 4.2%.

Use Rate for Late Season Application

Willowood Mepi Chlor 4.2% should be applied at a rate between 8 - 24 fl. oz. ($\frac{1}{2}$ pt. to 1 $\frac{1}{2}$ pts.) per acre. Use the lower rate range on cotton with only moderate additional growth potential, and the higher rate range on fields likely to continue vigorous growth. Total seasonal use per season (early plus late application) must not exceed 48 fl. oz./Acre (3 pts./Acre).

SPRAY VOLUMES

For spray application, thorough coverage of cotton foliage is required.

IN WATER:

Areas other than California:

Ground Application - Use a minimum of 2 gal./Acre.

Aerial Application - Use a minimum of 2 gal./Acre.

California Only:

Ground Application - Use a minimum of 5 gal./Acre.

Aerial Application - Use a minimum of 5 gal./Acre.

IN OIL:

Use a minimum total oil volume of 2 pts./Acre for ultra low volume (ULV) aerial application. Application in oil is permitted only in AL, AR, FL, GA, LA, MO, MS, NC, OK, SC, TN, and TX. Use a nonphytotoxic oil concentrate which contains either a petroleum or vegetable oil base, contains only EPA-exempt ingredients, provides good mixing quality in the jar test (see **COMPATIBILITY** section), and has been used successfully in your locality. The oil diluent should contain emulsifiers which provide good mixing quality. If the oil does not contain an emulsifier, one must be added during mixing at a volume equal to 3% of the final volume of the mixing tank. Do not apply Willowood Mepi Chlor 4.2% as ULV without using emulsifiers. If using a vegetable oil based product, only highly refined concentrates should be used.

Mix under constant agitation. Pour one-half of the required volume of oil into the spray tank, followed by the emulsifier (if the oil does not already contain one) at approximately 3% of the final spray tank volume, and then pour in the Willowood Mepi Chlor 4.2% while the remainder of the oil is added. Constant, moderate agitation is required during and after mixing and during application.

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.

- The distance of the outer most nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor.
- 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 must be observed.

AERIAL DRIFT REDUCTION ADVISORY INFORMATION

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

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** sections).

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 $\frac{3}{4}$ 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 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 downward. 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).

RAIN WASH-OFF PRECAUTION

The use of a high quality, EPA exempt surfactant will enhance the uptake of Willowood Mepi Chlor 4.2% into the plant. Therefore, the use of a surfactant allows applications made as little as 4 hours prior to rainfall to be effective. Without a surfactant, the product should be used at least 8 hours prior to expected rainfall.

COMPATIBILITY

Willowood Mepi Chlor 4.2% is water based, and is compatible with most insecticides and miticides. If compatibility is in doubt, perform a jar test to check for compatibility. Willowood Mepi Chlor 4.2% can be used with foliar fertilizers if your prior experience shows the combination is compatible and will not injure cotton under your conditions. Caution should be used when applying with foliar fertilizers under conditions of extreme heat.

RESTRICTIONS AND LIMITATIONS

- Insect or mite damage to Willowood Mepi Chlor 4.2% treated crops can lead to yield decreases or other undesirable effects.
- Do not apply Willowood Mepi Chlor 4.2% to cotton that is under stress. If using low rate multiple applications, discontinue use until your crop has overcome any stress.
- Do not apply more than 48 fl. oz. (3 pts.) of Willowood Mepi Chlor 4.2% per acre per season. The sum of all products and formulations containing mepiquat chloride must not exceed 0.132 pounds (60 grams) of mepiquat chloride per acre per season.
- Do not apply Willowood Mepi Chlor 4.2% within 30 days of harvest.
- Do not graze or feed cotton forage to livestock.
- Willowood Mepi Chlor 4.2% contains a dye and effectiveness is not related to the color of the spray solution.
- Do not tank mix with other products other than those mentioned under “**COMPATIBILITY**” sections.
- Do not plant another crop within 75 days after last treatment.
- Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

TIME AND RATE OF APPLICATION

SHORT-STAPLE AND LONG-STAPLE (PIMA) COTTON

Directions for use should be observed as specified below:

I. HIGH RATE SINGLE, LESS FREQUENT APPLICATIONS:

Use these instructions when you are not able to start growth regulation treatments early, or when you want to make the fewest number of applications.

AREA	TIME OF APPLICATION	RATE PER ACRE
	First Application	8 to 16 fl. oz.
AL, AR, AZ, CA, FL, GA, LA, MO, MS, NM, NC, SC, TN, VA	Apply when cotton is actively growing and is between 20 and 30" tall, but not more than 7 days beyond early bloom (5-6 blooms per 25 row feet). Also apply if cotton is 24" tall and has no blooms.	
	Second Application	8 to 16 fl. oz.
	Make another application in 2 to 3 weeks if additional growth control is desired.	
	Third Application for control of excessive Vegetative Growth	8 to 16 fl. oz.
	If the cotton field has a history of vigorous growth, apply a third application 1 to 2 weeks after the second application.	
	Late Season Application	8 to 24 fl. oz.
	See section titled " Late Season Application of Willowood Mepi Chlor 4.2% ".	
OK, TX (except Rio Grande Valley) Areas without a history of excessive vegetative growth.	First Application	8 fl. oz.
	Apply when cotton is in the early bloom stage (5-6 blooms per 25 row feet) and actively growing. Also apply if no blooms are present and the cotton is 20" tall and actively growing. See RESTRICTIONS AND LIMITATIONS section.	
	Second Application	8 fl. oz.
	Make a second application in 2 to 3 weeks if additional growth control is desired.	
	Third Application	8 fl. oz.
	If conditions after the second application of Willowood Mepi Chlor 4.2% continue to favor vigorous growth, apply a third application 1 to 2 weeks after the second application.	
	Late Season Application	8 to 24 fl. oz.
See section titled " Late Season Application of Willowood Mepi Chlor 4.2% ".		

AREA	TIME OF APPLICATION	RATE PER ACRE
OK, TX Areas with a history of excessive vegetative growth.	First Application	16 fl. oz.
	For best results, apply when plants are in early bloom stage (5-6 blooms per 25 row feet) and an average of 24" tall. Treatments can also be made when cotton height averages a minimum of 20" and a maximum of 30" provided cotton is not more than 7 days beyond early bloom. If cotton is 24" tall and has no blooms, apply Willowood Mepi Chlor 4.2%. See RESTRICTIONS AND LIMITATIONS section.	
	Second Application	8 to 16 fl. oz.
	For fields with a history of excessive growth, or if conditions after the first application favor excessive growth, make a second application in 2 to 3 weeks.	
	Third Application	8 to 16 fl. oz.
	If conditions after the second application of Willowood Mepi Chlor 4.2% continue to favor vigorous growth, apply a third application 1 to 2 weeks after the second application.	
	Late Season Application:	8 to 24 fl. oz.
See section titled " Late Season Application of Willowood Mepi Chlor 4.2% ".		

II. LOW-RATE MULTIPLE APPLICATIONS:

Use these instructions when you want to maintain maximum flexibility in plant regulation treatments.

AREA	TIME OF APPLICATION	EXCESSIVE GROWTH NOT EXPECTED OR LOWER RATES HAVE WORKED IN THE PAST	EXCESSIVE GROWTH EXPECTED OR HIGHER RATES HAVE BEEN NECESSARY IN THE PAST
AL, AR, AZ, CA, FL, GA, LA, MO, MS, NC, NM, OK, SC, TN, TX, VA	First Application:	2 fl. oz.	4 fl. oz.
	Apply at the matchhead square ¹ stage of growth.		
	Second Application:	2 fl. oz.	4 fl. oz.
	7-14 days later, or when regrowth occurs.		
	Third Application	2 to 4 fl oz*	4 to 8 fl. oz.*
	7-14 days later, or when regrowth occurs.		
	Fourth Application	2 to 8 fl. oz.*	4 to 12 fl. oz.*
	7-14 days later, or when regrowth occurs.		
	Fifth Application	4 to 8 fl. oz.*	4 to 12 fl. oz.*
(If needed): 7-14 days later, or when regrowth occurs.			
Late Season Application:	8 to 16 fl. oz.*	12 to 24 fl. oz.*	
See section titled " Late Season Application of Willowood Mepi Chlor 4.2% ".			

*Use the higher rate if previous application was not made or if growing conditions favor excessive growth.

¹Matchhead square is when the first square of a typical cotton plant is about the size of a match head (about 1/8" in diameter). Make the first application when 50% of the plants have one or more matchhead squares.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in locked area in original container only, with lid tightly closed. Store separately from other pesticides and fertilizers, food and feed to prevent contamination. Use care to avoid puncturing container during storage or transit. In case of a spill or leaking container, call CHEMTREC at **1-800-424-9300**.

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 HANDLING: 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. 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 burned, stay out of smoke.

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 Willowood LLC, 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. Willowood 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 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 Willowood LLC, and is subject to the inherent risks described above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, WILLOWOOD LLC DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, WILLOWOOD LLC, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF WILLOWOOD LLC IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN.

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