

34704-855

11/9/2009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. John Tice  
Loveland Products Inc.  
P.O. Box # 1286  
Greeley, Colorado 80632-1286

NOV 9 2009

Subject: LPI 005 Mepiquat Chloride  
EPA Reg. No. 34704-855  
Storage and Disposal Changes per PRN 2007-4, submitted June 8, 2009  
Decision No. 418240

Dear Mr. Tice,

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, to update the storage disposal information in accordance with PRN 2007-4; is acceptable provided the following corrections are made:

A. Page 1:

1. Reposition the "First Aid" statements (including the first paragraph of the second column) so that they are prior to the "Precautionary Statements".
2. Add a page number.
3. Add the heading "User Requirements" prior to paragraph stating "Follow manufacturers instructions". Also within that paragraph insert the word "exist" following "washables".
4. Within the "Environmental Hazards" sections, add "or rinsate" following "equipment washwaters".

B. Page 2:

1. In the paragraph starting "The exact composition", add the word "by" between "product" and "ULV".
2. Under "aerial application methods equipment", revise the text following the title "Application" as follows: 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.

C. Page 3:

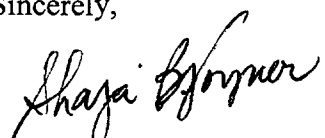
1. Add "higher rate, fewer applications" following the current text for the Table 2 header.
2. Replace the word "section" with "the" before the bolded "Application instruction" in the sentence starting "The times and rate". Also pluralize the bolded "instruction"

D. Page 5:

1. Within the third, fourth, and fifth paragraphs of warranty statements, replace "to the extent allowed by applicable law" with "to the extent consistent with applicable law".

This label supersedes all labels previously accepted for this product. Please submit one copy of the final printed labeling before the product is released for shipment. For your records, a copy of the label stamped "Accepted with Comments" is enclosed. If you have questions concerning this letter, please contact Shaunta Hill via phone 703-347-8961, or email at [hill.shaunta@epa.gov](mailto:hill.shaunta@epa.gov).

Sincerely,



Shaja B. Joyner  
Product Manager (20)  
Fungicide Branch  
Registration Division (7505P)

Enclosure: Stamped label.



# MEPIQUAT

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

NOV 9 2009

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

34704-855

## FOR USE ON COTTON

<b>ACTIVE INGREDIENT*:</b>	
Mepiquat Chloride: N, N-dimethylpiperidinium chloride	4.2%
<b>INERT INGREDIENTS:</b>	95.8%
<b>TOTAL</b>	<b>100.0%</b>

\*Equivalent to 0.35 pounds of active ingredient per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

EPA REG. NO. 34704-855

EPA EST. NO. 34704-MS-002

NET CONTENTS 1 GAL. (3.78 L)

IHT

EXP D 05M09

## 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, or clothing.

#### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** 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-resistant category selection chart.

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

Follow the 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.

#### 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 gum, using tobacco, or using the toilet.
- Remove clothing 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.

### 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 first 5 minutes, then continue rinsing eye.</li> <li>• Call poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</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>

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

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:**  
1-866-944-8565.

## ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

## 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.

All applicable directions, restrictions, precautions, and Conditions of Sale and Limitation of Warranty and Liability are to be followed. This labeling must be in the user's possession during application.

## 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 **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 and water, is:

- Coveralls,
- Chemical-resistant gloves made of any waterproof material, and
- Shoes plus socks.

## GENERAL INFORMATION

This product is a foliar-applied plant regulator that modifies the cotton plant in several beneficial ways. It is the only such compound that 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. The use of this product will also result in several or all of the following:

- height reduction and more open canopy
- better early boll retention and/or larger bolls
- less boll rot
- improved defoliation
- reduced trash and lower ginning costs
- better harvest efficiency
- darker green leaf color.

Most of these effects often favorably influence the yield potential of the cotton plant. The pink color of this product may fade under some conditions; however, effectiveness is not related to color of spray solution or the color of this product.

#### Spray coverage

Under most circumstances, water is the recommended diluent, however, oil is permitted in the following states for ultra low volume (ULV) aerial applications: Alabama, Arkansas, Florida, Georgia, Louisiana, Missouri, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Refer to **Air and Ground Application** sections for spray volumes.

Regardless of method or gallonage of application, thorough coverage of the cotton foliage is required.

#### Cleaning Application Equipment

Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product, particularly if a product with the potential to injure crops was used.

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**MEPIQUAT**  
**EPA REG. NO. 34704-855**

**APPLICATION INSTRUCTIONS**

**Early Application**

On both short-staple and Pima cotton, the grower has the option of low-rate multiple applications (see Table 1) or higher, less frequent dosages (see Table 2) which greatly facilitates his management flexibility. The multiple application option gives the producer the ability to discontinue usage of this product if any significant stresses occur after an earlier application. In such a case, the total quantity of this product used over a season may be reduced. If stress is relieved, the grower has the option of continuing treatments with this product. In addition, the rate and timing ranges indicated in the **Application Rates and Timings Tables** allow the grower to tailor his usage of this product to the degree of vegetative vigor in a given field. In areas where insecticides, miticides or foliar fertilizers are frequently applied, the timings are such that tank mixing is often possible. (See section **General Restrictions and Limitations**).

Fields should be carefully scouted and this product should not be applied if plants are under severe stress from weather factors, mite, insect or nematode damage, disease stress, herbicide injury, or fertility stress. In the absence of these stresses, up to 5 low-rate multiple applications can be made each season. After the first application (at matchhead square in the absence of stress), the rate and timing of subsequent applications will depend on vegetative vigor. Under good growing conditions, additional treatments should be made at 7-14 day intervals. However, if new growth at any time is excessive, higher rates of this product can be used. If significant loss of squares or young bolls has occurred earlier due to insect pressure or other stresses, but now these stresses have been alleviated, the need for this product is increased - excess vegetative growth is likely because of poor fruit load.

**Late Season Application**

Late application of this product (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 this product. Late season application can lead to one or more of the following:

- reduction in late season vegetative growth or re-growth after cutout or defoliation
- more complete and manageable cutout
- better defoliation
- earlier maturity
- reduction in trash
- lower ginning costs

Some of these effects may favorably influence the yield potential and fiber quality. A late season application of this product should be applied only if fields are not drought or nutrient stressed; that is, those fields likely to experience additional vegetative growth or re-growth. 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 suggested rates.

**Timing for Late Season Applications**

• **On fields where cotton cuts out and then starts re-growth:** Apply when re-growth begins, as evidenced by new leaves in the terminal and stem elongation. This application time is often but not always, 5-6 weeks after the first bloom.

• **On fields where cotton never completely cuts out:** Apply this product when there are 4-6 nodes above the white flower (NAWF). Measure NAWF by counting the number of main-stem nodes from the first position white bloom (the one closest to the main-stem) 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 nodes during the fourth to sixth week of bloom.

During this time, the NAWF should be decreasing about one node every 5-6 days - if its rate of decrease is less, 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 this product.

**Use Rate for Late Season Application**

Apply 8-24 fluid ounces of this product per acre. Use the lower rate on cotton with only moderate additional growth potential, and the higher rate on fields likely to continue vigorous growth.

**AIR APPLICATION**

**Spray Volume**

• **Water as Diluent:** Use a minimum of 2 gallons of water per acre in all states except California. In California, use a minimum of 5 gallons per acre.

• **Oil as Diluent:** Use a minimum of 1 quart of oil per acre. When using oil as a

diluent, the oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

- be non-phytotoxic
- contain only EPA-exempt ingredients
- provide good mixing quality in the jar test
- be successful in local experience

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to 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 this product ULV without using emulsifiers. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Compatibility Test for Mix Components**.

**AERIAL APPLICATION METHODS EQUIPMENT**

**Spray Drift Management**

Avoiding 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 issues 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 downward more than 45°. 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 publication titled **A Summary of Aerial Application Studies** by the Spray Drift Task Force.

**Importance of 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 Inversion section of this label).

**Controlling Droplet Size**

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Use a minimum of 5 gallons of water per acre. Increase water volume to at least 10 gallons of water per acre if grass foliage or crop canopy is dense.

**Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Use up to 40 psi.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** - Orienting nozzles so that the spray is released backward, parallel to the air stream, will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types. Use only diaphragm-type nozzles that produce fan spray patterns.

**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** - Applications should be made at a height greater than 10 feet above the top of the largest plants. 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 cross-wind, 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 droplets, 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. Do not apply this product by aircraft when wind is blowing more than 10 mph. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

**MEPIQUAT**  
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**TABLE 1. APPLICATION RATES AND TIMING: LOW RATE MULTIPLE APPLICATIONS**

The times and rates of application have been carefully researched and the **Directions For Use** should be observed as specified below. See section **General Restrictions and Limitations**.

Geographic Area	Time of Application	Fields with Moderate Vegetative Vigor: Rate Per Acre	Fields with High Vegetative Vigor: Rate Per Acre
AL, AR, AZ, CA, FL, GA, LA, MO, MS, NC, NM, OK, SC, TN, TX, VA	<b>First Application:</b> Optimal results will be achieved when plants are in the match head square <sup>1</sup> stage of growth.	2 fluid ounces	4 fluid ounces
	<b>Second Application:</b> 7-14 days later, or when re-growth occurs	2 fluid ounces	4 fluid ounces
	<b>Third Application:</b> 7-14 days later, or when re-growth occurs	2-4 fluid ounces <sup>2</sup>	4-8 fluid ounces <sup>2</sup>
	<b>Fourth Application:</b> 7-14 days later, or when re-growth occurs	2-8 fluid ounces <sup>2</sup>	4-12 fluid ounces <sup>2</sup>
	<b>Fifth Application (if needed):</b> 7-14 days later, or when re-growth occurs	4-8 fluid ounces <sup>2</sup>	4-12 fluid ounces <sup>2</sup>
	<b>Late season:</b> Refer to <b>Late Season Application of Mepiquat</b>	8-16 fluid ounces <sup>2</sup>	12-24 fluid ounces <sup>2</sup>

<sup>1</sup> Matchhead square is when the first square of a typical cotton plant is 1/8-1/4 inches in diameter. The first application should be applied when 50% of the plants have one or more matchhead squares.

<sup>2</sup> Use higher rates if previous application was not made or if growing conditions are conducive to vigorous growth.

**TABLE 2. APPLICATION RATES AND TIMING**

The times and rates of application have been carefully researched and section **Application Instruction** should be observed as specified below. See section **General Restrictions and Limitations**.

Geographic Area	Time of Application	Rate Per Acre
AL, AR, AZ, CA, FL, GA, LA, MO, MS, NM, NC, SC, TN, VA	<b>First application:</b> Apply this product to actively growing cotton that is 20-30" tall, provided cotton is not more than 7 days beyond early bloom stage (5-6 blooms per 25 row feet). If cotton is 24" tall and has no blooms, apply this product. Use 8-16 fluid ounces per acre on cotton where excessive vegetative growth is not likely to be a problem, and 16 fluid ounces per acre in areas tending to have excessive vegetative growth.	8-16 fluid ounces
	<b>Second application for control of excessive vegetative growth:</b> If the cotton field has a history of vigorous growth or if conditions after the first application of this product favor vigorous growth, make a second application 2-3 weeks after the first application.	8-16 fluid ounces
	<b>Third application for control of excessive vegetative growth:</b> If the cotton field has a history of vigorous growth or if conditions continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	8-16 fluid ounces
	<b>Late season application:</b> Refer to <b>Late Season Application</b> in section <b>Application Instructions</b> .	8-24 fluid ounces
OK, TX (except Rio Grande Valley)	<b>Areas where excessive vegetative growth is not a problem</b>	
	<b>First application:</b> Apply this product to actively growing cotton in the early bloom stage (5-6 blooms per 25 row feet). If no blooms are present and the cotton is 20" tall and actively growing, apply this product.	8 fluid ounces
	<b>Second application:</b> If conditions after the first application of this product favor vigorous growth, make a second application 2-3 weeks after the first application.	8 fluid ounces
	<b>Third application:</b> If conditions after the second application of this product continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	8 fluid ounces
	<b>Late season application:</b> Refer to <b>Late Season Application</b> in section <b>Application Instructions</b> .	8-24 fluid ounces
OK, TX (including Rio Grande Valley)	<b>Areas where excessive growth is a problem</b>	
	<b>First application:</b> Apply this product to actively growing cotton that is 20-30" tall, provided cotton is not more than 7 days beyond early bloom stage (5-6 blooms per 25 row feet). If cotton is 24" tall and has no blooms, apply this product.	16 fluid ounces
	<b>Second application for control of excessive vegetative growth:</b> If cotton field has a history of vigorous growth, or conditions after the first application of this product favor vigorous growth, make a second application 2-3 weeks after the first application.	8-16 fluid ounces
	<b>Third application:</b> If conditions after the second application of this product continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	8-16 fluid ounces
	<b>Late season application:</b> Refer to <b>Late Season Application</b> in section <b>Application Instructions</b>	8-24 fluid ounces

**Temperature and Humidity**

When making applications in low relative humidity, set equipment up 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 upwards 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). Do not apply this product by air if sensitive species are within 200 feet downwind.

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**MEPIQUAT**  
**EPA REG. NO. 34704-855**

**GROUND APPLICATION**

**Spray Volume**

**Water as Diluent:** Use 2 gallons of spray solution per acre in all states except California. In California, use a minimum of 5 gallons per acre.

**ADDITIVES**

If rain is expected within 8 hours, use a high-quality, EPA-exempt surfactant to make this product rain-safe after 4 hours.

**Compatibility Test for Mix Components**

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

- 1) **Water:** - For 20 gallons per acre spray volume, use 3.3 cups (800ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
- 2) **Products in PVA bags:** - Cap the jar and invert 10 cycles.
- 3) **Water-dispersible products:** - (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) Cap the jar and invert 10 cycles.
- 4) **Water-soluble products:** - (such as this product) Cap the jar and invert 10 cycles.
- 5) **Emulsifiable concentrates:** - (oil concentrate) Cap the jar and invert 10 cycles.
- 6) **Water-soluble additives:** - Cap the jar and invert 10 cycles.
- 7) Let the solution stand for 15 minutes.
- 8) **Evaluate** the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. Do not use any spray solution that could clog spray nozzles.

**MIXING ORDER**

- 1) **Water:** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2) **Products in PVA bags:** Rinse the tank thoroughly before adding any material in PVA bags as boron residue will prevent adequate mixing. Place the water-soluble PVA bag into the mixing tank. The water-soluble PVA bag will dissolve in water to allow the contents to disperse. Wait until all water-soluble PVA bags have fully dissolved and the plant regulator is evenly mixed in the spray tank before continuing.  
To prepare spray solution for aerial application, use a mixing tank or mixing vat first to get the product into suspension before transferring suspension to air application equipment.
- 3) **Water-dispersible products:** (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions)
- 4) **Water-soluble products**
- 5) **Emulsifiable concentrates**
- 6) Remaining quantity water

Only moderate agitation should be used while mixing and transporting.

**GENERAL TANK MIXING INFORMATION**

This product has an aqueous base, and as such, is compatible with most insecticides and miticides. You may combine this product with foliar fertilizers if prior experience has shown the original liquid formulation of this product to be compatible and non-injurious under your conditions. Always perform a **Compatibility Test for Mix Components** before preparing a tank mix application.

Read and follow the applicable **Restrictions and Limitations** and **Directions For Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

**GENERAL RESTRICTIONS AND LIMITATIONS**

- **Maximum seasonal use rate:** Do not apply more than a total of **48 fluid ounces (3 pints)** of this product (0.132 pounds a.i.) per acre, per season.
- The sum of all products and formulations containing mepiquat chloride must not exceed **0.132 pounds** of mepiquat chloride per acre per season. This maximum equals **48 fluid ounces (3 pints)** of Mepiquat (0.35 pounds a.i. per gallon).
- **Preharvest Interval (PHI):** Do not apply within **30 days** of harvest.
- **Restricted Entry Interval (REI): 12 hours.**
- Do not plant another crop within 75 days of last treatment.
- **Stress:** Do not apply to cotton plants, under severe stress due to adverse weather conditions, mite, insect, or nematode damage, disease, herbicide injury, or fertility stress. If using the low-rate multiple option, discontinue use until the stress is alleviated. Do not apply a single application of 8-16 fluid ounces of this product to cotton that is stressed due to lack of soil moisture.
- Do not graze or feed cotton forage to live stock.
- Do not apply through any type of **irrigation** equipment.

**TABLE 3. RESTRICTIONS AND LIMITATIONS**

Crop	Minimum Time From Application to Harvest (PHI)	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing or Feeding	Aircraft Application
Cotton	30 days	24 fluid ounces (1.5 pints)	48 fluid ounces (3 pints)	No	Yes

**Crops:**

This product can be used on the following crops:

**Cotton:** Look inside for complete **Restrictions and Limitations** and **Application Instructions**.

### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Do not store below 32°F or above 100°F. Store in a dry place away from heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state.

Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrcycle.org](http://www.acrcycle.org). If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**(For packages equal to or less than 5 gallons:)** 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**(For packages with capacities greater than 5 gallons or 50 lbs.)** Triple rinse as follows:

Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**(For square-bottom caged totes greater than 55 gals.):** Triple rinse or pressure rinse as follows:

Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Fill the container about 1/4 full with water, rinsing down all sides inside the container thoroughly. Recirculate water with the pump for 2 minutes. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**IN CASE OF SPILL:** In case of large-scale spillage regarding this product, call: CHEMTREC - 1-800-424-9300.

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**  
BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the

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purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL, THIS PRODUCT IS SOLD AS IS TO THE EXTENT ALLOWED BY APPLICABLE LAW. LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL, BUYER OR USER MUST SEND, TO THE EXTENT REQUIRED BY APPLICABLE LAW, WRITTEN NOTICE OF SUCH CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, 7251 WEST 4TH STREET, GREELEY, CO 80634.

TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT ALLOWED BY APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

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