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51036-283

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ACCEPTED

APR 2 1998

Under the Federal Insecticides, Fungicides, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 51036-283

MEPICHLOR/BP01 4-2

Plant growth regulator for use on cotton

ACTIVE INGREDIENTS:

| | |
|-----------------------------------|----------------|
| Bacillus cereus, Strain BP01..... | 0.05% |
| Mepiquat Chloride | 4.20% |
| INERT INGREDIENTS: | <u>95.75%</u> |
| TOTAL | 100.00% |

Contains a minimum of 3.1×10^8 colony forming units per fluid ounce.
 Contains 5.6 ounces (0.35 pounds) of mepiquat chloride per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists.

See Additional Precautionary Statements on rear panel.

EPA Reg. No. 51036-283

EPA Est. No. 51036-GA-1

NET CONTENTS: _____

Manufactured by:
 MICRO FLO COMPANY
 P.O. Box 5948
 Lakeland, Florida 33807-5948

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

CAUTION

Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- 1. Long-sleeved shirt and long pants
- 2. Waterproof gloves
- 3. Shoes plus socks

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.

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 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, 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 washwater.

CHEMIGATION PROHIBITION

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

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 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 ~~Waterproof~~ gloves
- 3. Shoes plus socks

STORAGE AND DISPOSAL

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

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 DISPOSAL: Triple rinse container (or equivalent). Then offer for recycling or reconditioning, 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.

IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call

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CHEMTREC at 1-800-424-9300.

In case of medical emergency regarding this product, call your local doctor for immediate treatment, or your local poison control center (hospital).

GENERAL INFORMATION

Fields should be carefully scouted. MEPICHLOR/BP01 4-2 should not be applied if plants are under any form of stress. If stress is alleviated, plants should be evaluated for vegetative growth before additional applications are made. MEPICHLOR/BP01 4-2 may be tank mixed with insecticides, fungicides, miticides or fertilizers when application timings coincide.

MEPICHLOR/BP01 4-2 contains a dye and effectiveness is not related to the color of the spray solution. Refer to COMPATIBILITY section for tank mixing with other products.

The following table gives the minimum and maximum amounts of diluent to be used to apply the amount of MEPICHLOR/BP01 4-2 per acre specified in the use rate tables. Applicators should use a dilution rate that achieves thorough coverage of available plant foliage up to the point of runoff.

SPRAY MIX VOLUMES

| DILUENT | MINIMUM PER ACRE | MAXIMUM PER ACRE | COMMENTS |
|--|---------------------|---------------------|---|
| WATER | 2 gallons (aerial) | 10 gallons (aerial) | Use minimum of 5 gallons in California for aerial. |
| | 10 gallons (ground) | 60 gallons (ground) | |
| OIL, petroleum or vegetable Aerial only | 2 pints | 4 pints | Application in oil is permitted only in AL, AR, FL, GA, LA, MO, MS, NC, OK, SC, TN and TX. If using a vegetable oil, only highly refined concentrates should be used containing sufficient amount of emulsifier to insure adequate mixing. Mix under constant agitation. Pour 1/2 of the required volume of oil into the spray tank, and then pour in the MEPICHLOR/BP01 4-2 before the remainder of the oil is added. Constant agitation is required during mixing and application. |

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.

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).

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 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

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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

Thorough coverage of foliage is required for MEPICHLOR/BP01 4-2 to be effective. The use of a high quality surfactant will enhance coverage and the uptake of MEPICHLOR/BP01 4-2 into the plant. It will allow applications to be 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

MEPICHLOR/BP01 4-2 is water based, and is compatible with most insecticides and miticides. If compatibility is in doubt, perform a standard jar test (mix all ingredients in a clear glass jar in approximate ratios intended for field application) to check for compatibility. MEPICHLOR/BP01 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. Care should be used when applying with foliar fertilizers under conditions of extreme heat.

RESTRICTIONS AND LIMITATIONS

- * For use on short-staple and long-staple (Pima) cotton only.
- * Do not apply more than 48 fl. oz. of MEPICHLOR/BP01 4-2 per acre per season. Do not exceed 6 applications per season. The sum of all products and formulations containing mepiquat chloride must not exceed 2.1 ounces (60 grams) of mepiquat chloride per acre per season.
- * Do not apply MEPICHLOR/BP01 4-2 within 30 days of harvest.
- * Do not graze or feed cotton forage to livestock.
- * Do not plant another crop within 75 days after last treatment.

LOW RATE MULTIPLE APPLICATIONS

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

NOTE: Do not exceed a total of 48 fl. oz. of MEPICHLOR/BP01 4-2 per acre per season.

| APPLICATION | RATE PER ACRE | COMMENTS |
|-------------------|-----------------|--|
| FIRST | 2 - 4 fl. oz. | Apply at the matchhead square stage of growth. |
| SECOND | 2 - 4 fl. oz. | 7-14 days later, or when regrowth occurs. |
| THIRD | 2 - 8* fl. oz. | 7-14 days later, or when regrowth occurs. |
| *FOURTH | 2 - 12* fl. oz. | 7-14 days later, or when regrowth occurs. |
| FIFTH (If needed) | 4 - 12* fl. oz. | 7-14 days later, or when regrowth occurs. |
| SIXTH (If needed) | 8 - 24* fl. oz. | 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. Refer to Late Season Application section. |

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

HIGH RATE SINGLE OR MULTIPLE APPLICATIONS

(Except Texas outside Rio Grande Valley and Oklahoma)

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.

NOTE: Do not exceed a total of 48 fl. oz. of MEPICHLOR/BP01 4-2 per acre per season.

| APPLICATION | RATE PER ACRE | COMMENTS |
|-------------|---------------|---|
| FIRST | 8 - 16 fl.oz. | 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. Use the 8 oz. rate on the cotton where excessive vegetative growth is not expected. Use 16 oz. where excessive growth has historically occurred. |

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| APPLICATION | RATE PER ACRE | COMMENTS |
|-------------|----------------|---|
| SECOND | 8 - 16 fl. oz. | Make another application in 2 to 3 weeks if additional growth control is desired. |
| THIRD | 8 - 16 fl. oz. | If the cotton field has a history of vigorous growth or if conditions continue to favor vigorous growth, apply a third application 1 to 2 weeks after the second application. |
| FOURTH | 8 - 24 fl. oz. | 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. Refer to Late Season Application section. |

HIGH RATE SINGLE OR MULTIPLE APPLICATIONS
(Texas outside Rio Grande Valley and Oklahoma)

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.

NOTE: Do not exceed a total of 48 fl. oz. of MEPICHLOR/BP01 4-2 per acre per season.

| APPLICATION | RATE PER ACRE | COMMENTS |
|-------------|----------------|---|
| FIRST | 8 - 16 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. Use the 8 oz. rate on cotton without a history of excessive vegetative growth. Use up to 16 oz. where excessive growth has historically occurred. |
| SECOND | 8 - 16 fl. oz. | Make second application in 2 to 3 weeks if additional growth control is indicated. Use the 8 oz. rate on cotton without a history of excessive vegetative growth. Use up to 16 oz. where excessive growth has historically occurred. |

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| APPLICATION | RATE PER ACRE | COMMENTS |
|-------------|----------------|---|
| THIRD | 8 - 16 fl. oz. | <p>If the cotton field has a history of vigorous growth or if conditions continue to favor vigorous growth, apply a third application 1 to 2 weeks after the second application.</p> <p>Use the 8 oz. rate on cotton without a history of excessive vegetative growth. Use up to 16 oz. where excessive growth has historically occurred.</p> |
| FOURTH | 8 - 24 fl. oz. | <p>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. Refer to Late Season Application section.</p> |

LATE SEASON APPLICATION

Late season application of MEPICHLOR/BP01 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 MEPICHLOR/BP01 4-2. Late season application will reduce late season vegetative growth or regrowth after cutout or defoliation. A late season application of MEPICHLOR/BP01 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 suggested rates.

Timing for Late Season Applications

A. On fields where cotton cuts out (has ceased vegetative growth) 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 MEPICHLOR/BP01 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 MEPICHLOR/BP01 4-2.

CONDITIONS OF SALE AND WARRANTY

The DIRECTIONS FOR USE of this product are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of MICRO FLO COMPANY ("MICRO FLO") or the seller. All such risks shall be assumed by the buyer.

MICRO FLO warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the DIRECTIONS FOR USE when it is used in accordance with such directions, subject to the inherent risks mentioned above. MICRO FLO NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS, OR CAUTIONS. BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. MICRO FLO and the seller offer this product, and the Buyer and User accept it, subject to the foregoing CONDITIONS OF SALE AND WARRANTY.

