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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (N7505C)
401 M St., S.W.
Washington, D.C. 20460

EPA Reg. Number:
10163-186

Date of Issuance:
JUN 21 1993

NOTICE OF PESTICIDE:
 X Registration
 Reregistration

Term of Issuance:
Conditional

(under FIFRA, as amended)

Name of Pesticide Product:
Gowan Mepiquat Chloride 4.2 Liquid

Name and Address of Registrant (include ZIP Code):
Gowan Company
P.O. Box 5569
Yuma, AZ 85366

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
2. Revise the EPA Registration Number to read, "EPA Reg. No. 10163-186."
3. Submit five copies of the revised final printed label for the record.

Signature of Approving Official:
[Signature]

Date:
JUN 21, 1993

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If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

This acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR part 156, subpart K, Section 156.200(c)(3), you are prohibited from distributing or selling any product within the scope of the WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Cynthia Giles-Parker
Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (H7505C)

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Gowan

MEPIQUAT CHLORIDE 4.2

Liquid

ACTIVE INGREDIENT:

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

INERT INGREDIENTS:..... 95.8%

TOTAL 100.0%

Contains 0.35 pounds active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

Avoid contact with eyes. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS

For terrestrial uses, 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 by disposal of equipment washwaters.

**SEE ATTACHED BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS
AND DIRECTIONS FOR USE.**

EPA Reg. No. 10163-

Manufactured for: Gowan Company
P.O. Box 5569
Yuma, AZ 85366

**ACCEPTED
with COMMENTS
in EPA Letter Dated:**

JUN 21 1993

Under the Federal Insecticide
Fungicide, and Rodenticide Act
I am hereby approving, for the pesticide
registered under EPA Reg. No.

10163-RIA

DIRECTIONS FOR USE

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

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 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 it: a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CASE OF EMERGENCY: In case of large scale spillage regarding this product, call 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

MEPIQUAT CHLORIDE 4.2 is a product which is equivalent to PIX® Plant Regulator produced by BASF Corporation. MEPIQUAT CHLORIDE 4.2 is a foliar applied plant regulator. Benefits derived from the use of MEPIQUAT CHLORIDE 4.2 include increased boll retention, reduced plant height which provides a more open canopy, less boll rot, improved defoliation, less trash, and a darker leaf color. These benefits can provide for earlier maturity and often result in improved yields.

Growers may use single or multiple applications. Application rates per acre are dependent on the number of applications to head and growing conditions. Multiple applications of low rates provide maximum flexibility under a wide range of growing conditions. MEPIQUAT CHLORIDE 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. MEPIQUAT CHLORIDE 4.2 may be tank mixed with insecticides/miticides when application timing coincides. (See RESTRICTIONS AND LIMITATIONS.)

Fields should be carefully scouted. MEPIQUAT CHLORIDE 4.2 should not be applied if plants are under any form of stress. In the absence of stress, a maximum of four low rate applications can be made each season, generally using 2 - 4 fl. oz./acre per application. The first application can be applied at the matchhead square stage. The rate and timing of subsequent applications depends on growing conditions and desired benefits. Under good growing conditions, additional treatments of 2 - 4 fl. oz./acre can be made at 7 - 14 day intervals. Higher rates of MEPIQUAT CHLORIDE 4.2 (1/4 - 1/2 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 24 fl. oz. of MEPIQUAT CHLORIDE 4.2 per acre in a growing season.

SPRAY VOLUMES

NOTE: THOROUGH COVERAGE IS REQUIRED.

IN WATER:

- **Areas other than California:**
Ground application: Use a minimum of 10 gallons of water per acre.
Aerial application: Use a minimum of 3 gallons per acre.
- **California only:**
Ground application: Use a minimum of 20 gallons per acre.
Aerial application: Use a minimum of 5 gallons per acre.

IN OIL:

Use a minimum total oil volume of 2 pints/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 and has been used successfully in your locality. The oil diluent should contain emulsifiers which provide good mixing quality. 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, and then pour in the MEPIQUAT CHLORIDE 4.2 while the remainder of the oil is added. Constant agitation is required during and after mixing and during application.

RAIN WASH-OFF PRECAUTION

The use of a high quality, EPA-exempt surfactant will enhance the uptake of MEPIQUAT CHLORIDE 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

MEPIQUAT CHLORIDE 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. MEPIQUAT CHLORIDE 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 MEPIQUAT CHLORIDE 4.2 treated crops can lead to yield decreases or other undesirable effects.
- Do not apply MEPIQUAT CHLORIDE 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 use MEPIQUAT CHLORIDE 4.2 on the short-staple variety Delta & Pineland 70.
- Do not apply more than 24 fl. oz. of MEPIQUAT CHLORIDE 4.2 per acre per season.
- Do not apply MEPIQUAT CHLORIDE 4.2 within 30 days of harvest.
- Do not graze or feed cotton forage to livestock within 30 days of application.
- Do not graze or feed cotton forage to livestock at all if applied in oil as an ULV application by air.
- MEPIQUAT CHLORIDE 4.2 contains a dye and effectiveness is not related to the color of the spray solution.

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- Do not tank mix with products other than those mentioned under COMPATIBILITY.
- Do not apply this product through any type of irrigation system.

TIME AND RATE OF APPLICATION

SHORT-STAPLE AND LONG-STAPLE (PIMA) COTTON

Directions for use should be observed as specified below:

I. SINGLE OR DUAL 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: AL, AR, AZ, CA, FL, GA, LA, MO, MS, NM, NC, SC, TN, VA

TIME OF APPLICATION:

First Application: Use 8 to 16 fl. oz. per acre. 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.

See RESTRICTIONS AND LIMITATIONS.

Second Application: Use 8 fl. oz. Make another application in 3 to 4 weeks if additional growth control is desired.

AREA: OK, TX (except Rio Grande Valley)
Areas without a history of excessive vegetative growth

TIME OF APPLICATION:

First Application: Use 8 fl. oz. per acre. 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 24" tall and actively growing.

See RESTRICTIONS AND LIMITATIONS.

Second Application: Use 8 fl. oz. per acre. Make a second application in 3 to 4 weeks if additional growth control is desired.

AREA: OK, TX
Areas with a history of excessive vegetative growth

TIME OF APPLICATION:

First Application: Use 8 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 28", provided cotton is not more than 7 days beyond early bloom.

See RESTRICTIONS AND LIMITATIONS.

Second Application: Use 8 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 3 - 4 weeks.

II. LOW-RATE MULTIPLE APPLICATIONS:

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

EXCESSIVE GROWTH NOT EXPECTED OR LOWER RATES HAVE WORKED IN THE PAST.

AREA: AL, AR, AZ, CA, FL, GA, LA, MO, MS, NC, NM, OK, SC, TN, TX, VA

TIME OF APPLICATION:

First Application: Use 2 fl. oz. Apply at the matchhead square† stage of growth.

Second Application: Use 2 to 4 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

Third Application: Use 2 to 4 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

Fourth Application: Use 2 to 4 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

EXCESSIVE GROWTH EXPECTED OR HIGHER RATES HAVE BEEN NECESSARY IN THE PAST.

AREA: AL, AR, AZ, CA, FL, GA, LA, MO, MS, NC, NM, OK, SC, TN, TX, VA

TIME OF APPLICATION:

First Application: Use 4 fl. oz. Apply at the matchhead square† stage of growth.

Second Application: Use 4 to 8 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

Third Application: Use 4 to 8 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

Fourth Application: Use 4 to 8 fl. oz.* Apply 7 - 14 days later, or when regrowth occurs.

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

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

NOTICE ON CONDITIONS OF SALE

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

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