RESTRICTED USE PESTICIDE
DUE TO ACUTE ORAL, ACUTE DERMAL, ACUTE INHALATION, PRIMAL DERMAL AND PRIMAL EYE
TOXICITY
For retail sale to and use only by Certified Applicators or persons under the direct supervision of a
Certified Applicator, and only for those uses covered by the Certified Applicator's certification.

Mocap EC Nematicide-Insecticide
EPA REG. NO. 5481-9041
SUPPLEMENTAL USE DIRECTIONS
For hops.

This label expires on November 1, 2016 and must not be distributed or used after this date.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
THIS LABEL MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF APPLICATION.
Before applying Mocap EC Nematicide-Insecticide please read the complete label affixed to
the product container. All applicable directions, restrictions and precautions on the EPA-
registered label are to be followed. Use of Mocap EC Nematicide-Insecticide according to this
supplemental labeling is subject to the use precautions and limitations imposed by the label
on the container.
IMPORTANT: Read the entire Directions for Use and the Limited Warranty and Disclaimer on
the EPA-registered Mocap EC Nematicide-Insecticide label before using this product.

Use Information

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<th>HOPS</th>
<th>APPLICATION TIMING</th>
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<th>RATE (QUARTS PER ACRE)</th>
<th>APPLICATION DIRECTIONS</th>
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<td>BABY HOPS</td>
<td>Post plant, pre-emergence</td>
<td>Symphylans, Prionus (long-horned beetle)</td>
<td>2 (on treated area)</td>
<td>Mix MOCAP EC Nematicide-Insecticide with sufficient water and broadcast apply immediately ahead of equipment such as a double disc or rotary cultivator to thoroughly incorporate MOCAP EC Nematicide-Insecticide solution into the top 2 to 4 inches of soil. Alternate Method: Mix MOCAP EC Nematicide-Insecticide with sufficient water and broadcast or band apply solution. Immediately apply 1 to 2 inches of overhead irrigation water to incorporate MOCAP EC Nematicide-Insecticide into soil. If band applying, apply in band at least 2 feet wide over row.</td>
</tr>
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<td>BABY HOPS</td>
<td>Symphylans</td>
<td>2</td>
<td>Mix MOCAP EC Nematicide-Insecticide with sufficient water and broadcast apply immediately ahead of equipment such as a double disc or rotary cultivator to thoroughly incorporate MOCAP EC Nematicide-Insecticide solution into the top 2 to 4 inches of soil. Wait a minimum of 3 days before planting the baby hops.</td>
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<tr>
<td>Pre-plant broadcast and incorporated</td>
<td>Prionus (long-horned beetle)</td>
<td>(on treated area)</td>
<td></td>
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<table>
<thead>
<tr>
<th>PRODUCING HOPS</th>
<th>Symphylans</th>
<th>2</th>
<th>Mix MOCAP EC Nematicide-Insecticide with sufficient water and broadcast apply immediately ahead of equipment such as a double disc or rotary cultivator to thoroughly incorporate MOCAP EC Nematicide-Insecticide solution into the top 2 to 4 inches of soil.</th>
</tr>
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<tr>
<td>Apply in the spring after pruning, but before stringing or after harvest</td>
<td>Prionus (long-horned beetle)</td>
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Alternate Method: Mix MOCAP EC Nematicide-Insecticide with sufficient water and broadcast or band apply solution. Immediately apply 1 to 2 inches of overhead irrigation water to incorporate MOCAP EC Nematicide-Insecticide into soil. If band applying, apply in band at least 2 feet wide over row.

Chemigation Method: Apply Mocap EC Nematicide-Insecticide to prewetted hop yards through subsurface drip irrigation (SDI) systems with pressure compensating emitters only. The Emission Uniformity (EU) of the drip irrigation system must be at 85 percent or greater (refer to USDA-NRCS Practice Standard Code 441).

Do not apply through any other type of irrigation system. Follow chemigation with enough irrigation to move MOCAP EC Nematicide-Insecticide into the top 4-6 inches of soil.

**RESTRICTIONS FOR HOPS**
- Make only 1 MOCAP EC Nematicide-Insecticide application per growing season (either preplant, post plant, pre-emergence or after harvest).
- Do not apply more than 2 Quarts MOCAP EC Nematicide-Insecticide (3 lbs. active ingredient) per acre per year.
- Do not harvest within 90 days after application.
- Drift: Do not apply when wind speed favors drift beyond the area intended for treatment.
- Soil Conditions: Sufficient soil moisture must be present at application for symphylans to be active in the top 4 to 6 inches of the soil profile. Volatilization may happen in very dry soils. Do
not apply to dry soils. To minimize the potential for run-off, do not apply MOCAP EC Nematicide-Insecticide to saturated soils.

- **Chemigation:** Apply Mocap EC Nematicide-Insecticide to prewetted hop yards through subsurface drip irrigation (SDI) systems with pressure compensating emitters only. Do not apply through any other type of irrigation system. Refer to the Chemigation Instructions to ensure optimum distribution of Mocap EC in the treatment zone.

- Wear Personal Protective Equipment (PPE) listed for applicators and other handlers when making adjustments or repairs on the chemigation system when MOCAP EC Nematicide-Insecticide is in the irrigation water.

**CHEMIGATION INSTRUCTIONS**

Mocap EC Nematicide-Insecticide can only be applied through properly equipped subsurface drip irrigation (SDI) systems. Do not apply this product through any other type of irrigation system. Do not apply product through chemigation systems connected to public water systems. Apply Mocap EC Nematicide-Insecticide by chemigation only to those crops allowing this application method in the crop-specific use directions.

**GENERAL DIRECTIONS FOR CHEMIGATION**

1. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

2. Calibrate the irrigation system and injection system or before applying Mocap EC. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.

3. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

4. Check the irrigation system to insure uniform application of water. The chemigation system, which is inclusive of the irrigation equipment and chemigation apparatus, must be properly maintained. Do not apply when system connections or fittings leak or when emitters are not properly functioning.

5. The injection unit and supply tank should be free of rust, fertilizer or pesticide residue, sediment, and foreign material, and equipped with an in-line strainer with a 100-mesh or larger screen positioned between the supply tank and the injection pump. Dispose of any residue in accordance with Federal or State laws.

6. Add specified amount of Mocap EC to the water in the supply tank.

7. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that the materials are compatible at the time of mixing and do not separate during application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control. Otherwise, agitate the spray solution before and during application.

8. Application should be in sufficient water and of sufficient duration to apply the recommended rate evenly. The system must be properly calibrated (with water only) to ensure that the amount of Mocap EC applied corresponds to the recommended rate.

9. Start the water pump and irrigation system, allowing the desired pressure to be achieved throughout the SDI system before starting the injection process.

10. Apply continuously for the duration of the application period.

11. Do not apply when wind speed favors drift beyond the area intended for treatment.

12. Do not allow irrigation water to collect or run-off during chemigation and pose a hazard to workers, bystanders, livestock, wells, or adjoining crops.

13. Once the application is completed, thoroughly flush the entire irrigation and injection system with untreated water before turning off the irrigation water. To ensure the lines are flushed and free of this product, a dye indicator may be injected into the lines to mark the end of the application period.

14. Wear Personal Protective Equipment as defined in the PPE section of this label for applicators and other handlers when making adjustments or repairs on the chemigation system when Mocap EC is in the irrigation water. Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.

**CHEMIGATION EQUIPMENT REQUIREMENTS**

9041-20131105 Mocap EC Chemigation Supplemental (FP) for (S) 31-Oct-2013
1. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

2. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

3. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

4. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

5. Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

6. Any alternatives to the above required safety devices must conform to the “List of EPA-approved Alternative Devices.”

7. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through irrigation equipment.

CHEMIGATION APPLICATION USING SUBSURFACE DRIP IRRIGATION (SDI) – SPECIFIC OPERATING INSTRUCTIONS

1. The irrigation system must contain an air gap; an approved reduced pressure principle assembly (RP) or reduced pressure principle detector assembly (RPDA); or an approved irrigation mainline chemigation valve consisting of a functional check valve, vacuum relief valve, inspection port, and low pressure drain. The devices must be appropriately located on the irrigation pipeline to prevent water source contamination from backflow. Refer to the American Society of Agricultural Engineer’s Engineering Practice 409 for more information or state specific regulations.

2. The Emission Uniformity (EU) of the drip irrigation system must be at least 85 percent or greater (refer to USDA-NRCS Practice Standard Code 441).

3. Mocap EC should not be applied at the same time that a dripline clean out product is being used as product performance may be jeopardized.

4. Apply Mocap EC Nematicide-Insecticide to pre-wetted hop yards through subsurface drip irrigation (SDI) with pressure compensating emitters only.

5. Irrigate crop in a manner to wet the root zone first, and then introduce Mocap EC for a period to distribute the material uniformly to the crop being treated. Discontinue use of Mocap EC long enough to purge the system with untreated water and allow the Mocap EC to remain in the root zone of the crop. Refer to the crop-specific use directions on labels for treatment rates and additional use information.

6. Product should be applied continuously for the duration of the water application. Product should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. To achieve optimum distribution in the treatment zone, meter Mocap EC at a continuous, uniform rate during the middle 1/3 of the irrigation cycle. Continue to irrigate during the final 1/3 of the irrigation set to ensure proper flushing of the irrigation system.

7. Follow chemigation with enough irrigation to move Mocap EC Nematicide-Insecticide into the top 4-6 inches of soil.

CALIBRATION OF SUBSURFACE DRIP IRRIGATION (SDI) SYSTEMS

- The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through a SDI system.
- Calibrate the irrigation and injection system before applying Mocap EC.
- Calibrate the injection pump with the irrigation system at the desired operating pressure.
- Calculation of application rate is based on the average wetted soil surface area (radius) around a drip emitter. Soil surface wetted area is measured from the emitter to the perimeter of the wetted area, which is the radius in the following calculation. To determine the application rate for Mocap EC for SDI systems, the following calculation must be used.

1. Calculate soil surface wetted area (in square inches) of the emitter or micro-sprinkler, or \[ A = 3.14 \times \text{radius} \times \text{radius} \]
Example: If the average wetted area on the soil surface as measured from the emitter or micro-sprinkler to the perimeter of the wetted area is 16 inches, then

\[ A = 3.14 \times (16'' \times 16'') \]
\[ A = 3.14 \times 256 \text{ square inches} \]
\[ A = 804 \text{ square inches} \]

2. Calculate the soil surface wetted area (in square feet) per acre, or B.

\[ B = \frac{A \times \text{Number of emitters per acre}}{144 \text{ square inches per square foot}} \]

Example: If there are 3,200 emitters per acre, then

\[ B = \frac{804 \text{ square inches} \times 3,200 \text{ emitters per acre}}{144} = 17,867 \text{ square feet of wetted area per acre} \]

3. Calculate total surface area wetted by the micro-irrigation system, or C.

\[ C = B \times \text{acres treated by the micro-irrigation system} \]

Example: If the size of the application block (or field) is 20 acres, then

\[ C = 17,867 \text{ square feet of wetted surface area per acre} \times 20 \text{ acres} \]
\[ C = 357,340 \text{ square feet of the application block is wetted by the micro-irrigation system.} \]

4. Calculate the amount of Mocap EC to inject, or Q.

From the rate table, determine the desired broadcast rate per acre of Mocap EC, or R.

\[ Q = \frac{C \times R}{43,560 \text{ square feet per acre}} \text{ quarts of Mocap EC per acre} \]

Example: If the desired broadcast application rate of Mocap EC is 1.33 quarts per acre, then

\[ Q = \frac{357,340 \times 1.33}{43,560 \text{ square feet per acre}} = 11 \text{ quarts of Mocap EC injected during the application} \]

Alternative Calculation Method – Strip or Bed Application

When emitter spacing or dual driplines result in a line source (strip or bed) wetting pattern rather than a point source wetting zone, the following formula may be used to determine a broadcast equivalent application rate.

To calculate the quantity of Mocap EC to be applied to the strip or bed (that is, the treated area), the treated area (i.e., length x width) comprising the strips or beds in the application block (field) must be determined. The amount of Mocap EC applied to the total treated area, adding together area in the strips or beds, is a ratio of the broadcast application rate, or the Broadcast Equivalent Rate.

From the rate table, determine the desired broadcast rate per acre of Mocap EC, or R.

\[ \text{Broadcast Equivalent Rate} = \frac{\text{Strip or bed width, in inches}}{\text{Center to center row spacing, in inches}} \times R \]

Example: Two drip irrigation lines are installed, with a dripline placed on each side and eight inches away from the planting row. The soil surface wetting zone radius for each emitter is
16 inches. The driplines form a wetting zone that coalesces into a wetted strip that is 32 inches wide. Row spacing between plantings, center to center, is 10 feet (or 120 inches). Application block is 10 acres.

\[ \text{Broadcast Equivalent Rate} = \frac{32 \text{ inches}}{120 \text{ inches}} \times 1.33 \text{ quarts of Mocap EC per acre} \]

Or, 0.35 quart of Mocap EC per treated acre, or 3.5 quarts to be injected during the application.

**POSTING OF AREAS TO BE TREATED**

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive area. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other locations affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in ENGLISH. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared.

All words shall consist of letters at least 2½ inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words “KEEP OUT”, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word “STOP”. Below the symbol shall be the words “PESTICIDES IN IRRIGATION WATER”.

Posting required for chemigation does not replace other posting and reentry requirements for farm worker safety.

Registrant: AMVAC Chemical Corporation
4100 East Washington Boulevard
Los Angeles, CA 90023