

5481-9041

10/31/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

OCT 31 2013

Kelly Rahn
AMVAC
4695 MacArthur Court, Suite 1200
Newport Beach, CA 92660

Dear Ms. Rahn:

Subject: Amendment of label and **supplemental label** to add chemigation language
MOCAP EC Nematicide-Insecticide
EPA Registration No. 5481-9041
Your Submission Dated: September 9, 2013

The labeling referred to above submitted in connection with the Federal Insecticide, Fungicide and Rodenticide Act, is amended as acceptable.

A stamped copy of the labeling is enclosed for your records. Please submit one final printed copy of the labeling before releasing the product for shipment. If you have any questions regarding this label, please contact Autumn Metzger at (703) 305-5314 or metzger.autumn@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Venus Eagle".

Venus Eagle
Product Manager 01
Insecticide-Rodenticide Branch
Registration Division (7505P)

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

ACTIVE INGREDIENTS: Ethoprop: (O-Ethyl S, S-Dipropyl Phosphorodithioate).....	69.6%
OTHER INGREDIENTS*:	30.4%
TOTAL	100.0%

Contains Petroleum distillates*
(Contains 6 pounds active ingredient per gallon)

EPA Reg. No. 5481-9041

EPA Est. No.



KEEP OUT OF REACH OF CHILDREN
DANGER POISON
PELIGRO



PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.
TRANSLATION TO THE USER: If you cannot read English, do not use this product until the label has been fully explained to you.

FIRST AID

Ethoprop is an organophosphate.

IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.

EMERGENCY INFORMATION

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

FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:

Transportation: CHEMTREC.....	1-800-424-9300
Other: AMVAC.....	1-323-264-3910

ACCEPTED

OCT 31 2013

Under the Federal Insecticide, Fungicide,
and Rodenticide Act, as amended, for the
pesticide registered under:

NOTE TO PHYSICIAN: This product is a cholinesterase inhibitor. Severe symptoms and signs include diarrhea, pinpoint and non-reactive pupils, respiratory difficulty, pulmonary edema, cyanosis, loss of sphincter control, convulsions, and coma. Support respiration as needed. Measures should include removal of secretions, maintenance of a patent airway, and if necessary, artificial ventilation. If cyanosis is absent, give ATROPINE 2-4 mg intravenously (0.05 mg/kg for children). Repeat atropine at 5-10 minute intervals until atropinization occurs (dry, flushed skin, tachycardia, pupillary dilatation), and maintain for 48 hours. If cyanotic, give initial atropine intramuscularly and start measures to improve ventilation.

Start 2-PAM (PROTOPAM, Ayerst) at the same time. Give 1-2 grams PROTOPAM (20-40 mg/kg for children) in 100cc saline over 15-30 minutes. If pulmonary edema is present, give intravenously slowly as a 5% solution in water over a period of at least 5 minutes. A second dose may be given after one hour if muscle weakness persists. Additional doses may be given cautiously for persistent muscle weakness. May be given by intramuscular or subcutaneous routes if intravenous administration is not feasible.

In case of skin contact, wash patient with soap and water followed by wash with 95% ethyl alcohol. Keep patient under constant observation for 24-36 hours. Symptoms may persist for one month.

The use of theophylline, morphine, barbiturates, phenothiazines, reserpine, and succinyl choline is contraindicated.

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

DANGER

Fatal if swallowed. Fatal if absorbed through skin. Fatal if inhaled. Corrosive. Causes irreversible eye damage. Do not breathe spray mist. Do not get into eyes, on skin, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SYMPTOMS OF POISONING: Nausea, vomiting, abdominal cramps, diarrhea, excessive salivation, headache, dizziness, weakness, blurring or dimness of vision, excessive tearing, loss of muscular coordination, slurring of speech, twitching of muscles (especially of tongue and eyelids), mental confusion, disorientation, drowsiness, difficulty in breathing (chest tightness), runny nose.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

Do not store in or around home or residence.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminant, butyl rubber (>14 mils), nitrile rubber (>14 mils) or viton (>14 mils). If you want more options, follow the instructions for category F on an EPA chemical-resistant category selection chart.

Mixers, loaders, applicators, and other handlers using engineering controls must wear:

- long-sleeve shirt and long pants, and
- shoes plus socks.

In addition, mixers and loaders must wear chemical-resistant gloves and a chemical-resistant apron.

See engineering controls for additional requirements.

Handlers engaged in those activities for which use of an engineering control is not possible, such as cleaning up a spill or leak and cleaning or repairing contaminated equipment, must wear:

- coveralls over long-sleeve shirt and long pants,
- chemical-resistant gloves,
- protective eyewear,
- chemical-resistant footwear plus socks,
- chemical-resistant apron if exposed to the concentrate,
- chemical-resistant headgear for overhead exposure, and
- a respirator with an organic-vapor removing cartridge with a prefilter (MSHA/NIOSH approved number prefix TC 23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or NIOSH-approved respirator with an organic vapor (OV) cartridge or canister with any N,R,P or HE-filter.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS

Mixers and loaders must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)] for providing dermal and inhalation protection. The system must be capable of removing the pesticide from the shipping container and transferring it into mixing tanks and/or application equipment. At any disconnect

point, the system must be equipped with a dry disconnect or dry couple shut-off device that is warranted by the manufacturer to minimize drippage to not more than 2 mL (0.068 oz.) per disconnect point.

In addition, mixers and loaders must:

- wear the personal protective equipment required in the PPE section of this labeling for mixer/loaders,
- wear protective eyewear if the system operates under pressure,
- be provided with, must have immediately available for use, and must wear in case of an emergency, such as a broken package or spill, the PPE specified in the PPE section of this labeling for handlers engaged in those activities for which use of an engineering control is not possible.

Applicators using motorized ground equipment must use an enclosed cab that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, applicators must:

- wear the personal protective equipment required in the PPE section of this labeling for applicators
- *either* wear the type of respirator specified in the PPE section of this labeling *or* use an enclosed cab that is declared in writing by the manufacturer or by a government agency to provide at least as much respiratory protection as the type of respirator specified in the PPE section of this labeling,
- be provided with, must have immediately available for use, and must wear in case of an emergency when they must exit the cab, the PPE specified in the PPE section of this labeling for handlers engaged in those activities for which use of an engineering control is not possible,
- take off any PPE that was worn in the treated area before reentering the cab, and
- store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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

This product is toxic to aquatic organisms (fish and invertebrates) and wildlife and extremely toxic to birds. Birds in treated areas may be killed. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. For specific No-Spray Zone requirements, see the Spray Zone Application Restrictions. Cover, incorporate or disc product that is spilled either during loading or application to the soil surface. Do not contaminate water when disposing of equipment wash waters.

This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

DIRECTIONS FOR USE

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

Read entire label before using this product.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

RESTRICTIONS

- 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.
- Do not allow this product to drift.
- Not for Residential use.
- Do not store or use in or around home or residence.
- Do not apply by air.
- Do not apply more than one application per crop season.
- Application must be incorporated into the soil.
- This product is not registered in Nassau & Suffolk Counties of New York State. State law prohibits distribution, sale, or use of the product in these counties.

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), notification to workers, 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 workers to enter treated areas during the restricted entry interval (REI) of 48 hours. The 48 hour REI is increased to 72 hours in outdoor areas where average rainfall is less than 25 inches a year.

EXCEPTION: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early re-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:

- coveralls over long-sleeved shirt and long pants,
- chemical-resistant gloves,
- chemical-resistant footwear plus socks, and
- protective eyewear.

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

SPRAY ZONE APPLICATION RESTRICTIONS

Do not apply this product within 140 feet of inland freshwater habitats. Along the Atlantic seaboard, do not apply within 800 feet of brackish water habitats. Under no circumstances is this product to be applied within 140 feet of people or these surface water bodies.

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

For ground boom applications, apply with nozzle height no more than 4 feet above the ground and only when wind speed is 10 mph or less at the application site as measured by an anemometer. Use medium or coarser spray as described according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.

The applicator also must use all other measures necessary to control drift.

APPLICATION RESTRICTIONS

- For application only by motorized ground boom equipment and through irrigation systems if specified in crop-specific use directions. Do not apply with liquid backpack sprayers, low-pressure handwand liquid equipment, sprinkler cans or hand-held measuring containers, or by hand-dipping of seedlings.
- For use on ornamentals: only preplant broadcast application to soil for field nursery stock, which may only be mechanically transplanted into the treated area, and not until 72 hours after treatment.
- This product is to be soil incorporated (except chemigation applications using SDI) to a depth of at least 2 to 4 inches, during or immediately following application by mechanical means, including by rotary tiller, rotary hoe, springtooth harrow, or by double-discing.
- Calibrate and adjust application equipment to insure proper rate and accurate placement. Clean application equipment thoroughly after use. For any leftover material, see instruction for "Storage and Disposal" on this label.
- Apply this product only as specified on this label.
- Do not apply in Long Island, New York.

ROTATIONAL CROP RESTRICTIONS

- Do not plant leafy vegetables within 30 days of last application.
- Do not plant small grains within 8 months of last application.
- Except for potatoes and sweet potatoes, do not rotate to any root or tuber crops within 12 months of last application.

PLANT RESPONSE PRECAUTIONS

- To avoid possible injury to cabbage, do not use as a seed furrow treatment or allow spray to contact the seed.

MIXING, LOADING, AND HANDLING INSTRUCTIONS

- MOCAP EC Nematicide-Insecticide spray mixture may affect some plastic materials after prolonged use. Inspect spray tubing hoses and gaskets frequently, particularly black-colored materials. Replace any material which is softened or swollen. Polyethylene, polypropylene, nylon, and teflon materials are satisfactory. Polyvinyl chloride (PVC) materials are not satisfactory.
- Add the specified amount of MOCAP EC Nematicide-Insecticide to the water in the spray tank and mix well. Agitate frequently during use.
- If MOCAP EC Nematicide-Insecticide is to be tank mixed with liquid fertilizers, test for physical compatibility prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt.) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5-15 minutes after mixing.

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.

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

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

$A = 3.14 \times \text{radius} \times \text{radius}$

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 x acres treated by the micro-irrigation system

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

C = 17,867 square feet of wetted surface area per acre x 20 acres

C = 357,340 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.

INCORPORATION STATEMENT

Follow any specific soil incorporation instructions given under the crop headings.

GROUND APPLICATION

Use enough water in the sprayer to thoroughly and evenly cover the area to be treated.

CONVERSION TABLE FOR BANDED APPLICATIONS

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ROW SPACING (INCHES)	FLUID OUNCES PER 1000 ROW FEET													
	1.4	1.7	2.0	2.4	2.9	3.3	3.9	4.4	5.0	5.1	5.3	5.9	6.8	6.9
	USE RATES AS QUARTS PER ACRE													
20	1.1	1.4	1.6	2.0	2.4	2.7	3.2	3.6	4.1	4.2	4.3	4.8	5.6	5.6
24	1.0	1.2	1.4	1.6	2.0	2.2	2.6	3.0	3.4	3.5	3.6	4.0	4.6	4.7
28	0.8	1.0	1.2	1.4	1.7	1.9	2.3	2.6	2.9	3.0	3.1	3.4	4.0	4.0
32	0.7	0.9	1.0	1.2	1.5	1.7	1.9	2.2	2.6	2.6	2.7	3.0	3.5	3.5
36	0.6	0.8	0.9	1.1	1.3	1.5	1.8	2.0	2.3	2.3	2.4	2.7	3.1	3.1
40	0.6	0.7	0.8	1.0	1.2	1.3	1.6	1.8	2.0	2.1	2.2	2.4	2.8	2.8
44	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.6	1.9	1.9	2.0	2.2	2.5	2.6
48	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.5	1.7	1.7	1.8	2.0	2.3	2.3

REFER TO APPLICATION DIRECTIONS FOR SPECIFIC USE RATES FOR EACH CROP

CONVERSION TABLE FOR BANDED APPLICATIONS

HIGHER RATES AND WIDER ROW SPACINGS

ROW SPACING (INCHES)	FLUID OUNCES PER 1000 ROW FEET						
	5.0	6.8	10.3	11.8	13.7	17.2	20.6
	USE RATES AS QUARTS PER ACRE						
36	2.3	3.1	4.7	5.3	6.2	7.8	
48	1.7	2.3	3.5	4.0	4.7	5.9	7.0
60	1.4	1.9	2.8	3.2	3.7	4.7	5.6
72	1.1	1.5	2.3	2.7	3.1	3.9	4.7
84	1.0	1.3	2.0	2.3	2.7	3.3	4.0

REFER TO APPLICATION DIRECTIONS FOR SPECIFIC USE RATES FOR EACH CROP

SPECIFIC USE DIRECTIONS

Use MOCAP EC Nematicide-Insecticide only in accordance with label directions, warnings, and cautions. Control often lasts more than six weeks varying with growing conditions, rate of use and pests. **Restriction:** Do not use on any crop not listed on this label or supplemental labeling, as any residues remaining may be illegal or harmful.

Where a range of rates is specified, use the higher rate if pest infestations are expected to be severe. To determine your infestation level, consult local or state recommendations for sampling methods and economic thresholds. Where both banded and broadcast applications are allowed, refer to the specific crop directions for the proper use of each application method. For per acre use rates when banding, refer to the use rate chart, *Conversion Table for Banded Applications*, in the Ground Application section above.

CABBAGE

11/24

		RATE OF MOCAP EC Nematicide-Insecticide	
APPLICATION TIMING	PESTS CONTROLLED	<u>BANDED</u> FL.OZ./1000 ROW FEET	APPLICATION DIRECTIONS
at planting	Nematodes Garden Symphylans	2.4	For at-planting application to seeded crops, apply in 12 to 15 inch band on the row (36-inch row spacing) and incorporate 2 to 4 inches deep with mechanical equipment during or immediately following treatment. Do not use as a seed furrow treatment or allow spray to contact the seed or phytotoxicity may occur.

RESTRICTIONS FOR CABBAGE

- Make only 1 application of this product per growing season.
- For use in California only.

HOPS

APPLICATION TIMING	PEST CONTROLLED	RATE (QUARTS PER ACRE)	APPLICATION DIRECTIONS
BABY HOPS Post plant, pre-emergence	Symphylans Prionus (long-horned beetle)	2 (on treated area)	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.
BABY HOPS Pre-plant broadcast and incorporated	Symphylans Prionus (long-horned beetle)	2 (on treated area)	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.
PRODUCING HOPS Apply in the spring after pruning, but before stringing or after harvest	Symphylans Prionus (long-horned beetle)	2 (on treated area)	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. 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.

MINT

APPLICATION TIMING	PEST CONTROLLED	RATE (QUARTS PER ACRE)	GALLONS WATER PER ACRE	APPLICATION DIRECTIONS
New Mint: Apply preplant	Symphyllans	2	20 - 30	Spray with ground equipment, broadcast, over the field. Do not apply by air or through any type of irrigation equipment. This product is to be soil incorporated to a depth of at least 2 to 4 inches, during or immediately following application by mechanical means, including by rotary tiller, rotary hoe, springtooth harrow, or by double discing, or by immediate application of 1 to 2 inches of overhead irrigation. Repeat irrigation before soil dries.
	Nematodes	4		
Mint Apply after last harvest of the growing season	Symphyllans	2		
	Mint Root Borer			
	Nematodes	4		

RESTRICTIONS FOR MINT

- Make only 1 MOCAP EC Nematicide-Insecticide application per growing season (either preplant, or after last harvest of the growing season).
- Do not apply by air or through any type of irrigation equipment.
- Use 20 to 30 gallons of water per acre for thorough coverage.
- Do not harvest within 225 days of application

PRECAUTIONS FOR MINT

- Application of MOCAP EC Nematicide Insecticide to actively growing foliage may result in a phytotoxic response due to solvent burn.

POTATOES
(West of the Mississippi River)

		RATE OF MOCAP EC Nematicide-Insecticide		
APPLICATION TIMING	PESTS CONTROLLED	<u>BANDED</u> FL.OZ./1000 ROW FEET	<u>BROADCAST</u> GALLONS PER ACRE	APPLICATION DIRECTIONS
West of the Mississippi River prior to planting or at planting or prior to crop emergence	Symphylians Wireworms	4.4	2/3 – 1 (Maximum 6 lb ai/A)	BAND: Uniformly distribute spray in a 12 inch band over the row (36-inch row spacing), either behind the planter shoe next to the closing disk or immediately in front of the planter shoe. Mix with the top 2 to 4 inches of soil during or immediately following treatment.
	Nematodes (excluding Northern root knot, Columbia root knot, and stubby root nematodes in the Pacific Northwest; suppression of stubby root nematode in areas outside the Pacific Northwest)	4.4	1 – 2 (Maximum 12 lb ai/A)	IMPORTANT: Certain early-season environmental conditions and agronomic practices may impose stresses on the potato seed piece resulting in delayed emergence. Under these conditions, the application of MOCAP EC Nematicide-Insecticide as a concentrated band directly in the furrow may increase the potential for delayed emergence. To minimize the contribution of MOCAP EC Nematicide-Insecticide to this effect, apply so as to distribute the product in the soil surrounding the seed piece rather than direct application into the seed furrow. For moderate* to heavy* infestations of wireworms or nematodes use the broadcast application instead of band or sidedress. Wireworm infestations will be especially heavy* in potatoes planted following wireworm host crops such as (but not limited to) sod, grass for seed, pasture, cereal, corn, hay, alfalfa, beans, onions, potatoes, new ground, fallow ground (weedy or cultivated), or ground not farmed for a year or more. BROADCAST: Apply uniformly and immediately incorporate 2 to 4 inches deep using suitable tillage equipment. Apply within 2 weeks before planting until prior to crop emergence.
	Northern root knot nematode in the Pacific Northwest	N/A	1 to 2 (1 1/2 to 2 in the Columbia River Basin, Yakima and Walla Walla Counties, WA) (Maximum 12 lb ai/A)	BROADCAST ONLY: Apply uniformly and immediately incorporate 2 to 4 inches (4 to 8 inches in the Columbia River Basin and Yakima and Walla Walla Counties of Washington) deep using suitable tillage equipment. Apply within 2 weeks before planting until prior to crop emergence. Under severe* infestation or long growing season conditions, MOCAP EC Nematicide-Insecticide may not adequately protect tuber quality.

POTATOES
(West of the Mississippi River - Continued)

		RATE OF MOCAP EC Nematicide-Insecticide		
APPLICATION TIMING	PESTS CONTROLLED	<u>BANDED</u> FL. OZ. / 1000 ROW FEET	<u>BROADCAST</u> GALLONS PER ACRE	APPLICATION DIRECTIONS
West of the Mississippi River prior to planting or at planting or prior to crop emergence	Suppression of Columbia root knot and stubby root nematodes in the Pacific Northwest	N/A	2 (Maximum 12 lb ai/A)	BROADCAST ONLY: Apply uniformly and immediately incorporate 4 to 8 inches deep using suitable tillage equipment. Best results are obtained with deep (6-8 inches), even incorporation. Apply within 2 weeks before planting. Generally, MOCAP EC Nematicide-Insecticide should be applied following fall or spring application of a registered fumigant nematocide. In the Columbia River Basin, and Yakima and Walla Walla Counties of Washington it is strongly recommended that MOCAP EC Nematicide-Insecticide be applied following fall or spring application of a registered fumigant nematocide. Under severe* infestation or long growing season conditions, MOCAP EC Nematicide-Insecticide may not adequately protect tuber quality.

RESTRICTIONS FOR POTATOES (West of the Mississippi River)

- Make only 1 application of this product per growing season.
- Do not make aerial applications.
- Do not exceed 2 gallons of MOCAP EC Nematicide-Insecticide (12 pounds of active ingredient) per acre per crop for nematodes and 1 gallon (6 pounds of active ingredient) per acre per crop for the other listed pests.
- Do not apply MOCAP EC Nematicide-Insecticide once plants have begun to emerge.
- The Pacific Northwest potato growing region is considered to include the states of Washington, Oregon, and Idaho. The Columbia River Basin is considered to include Umatilla and Morrow Counties of Oregon and Grant, Adams, Franklin, and Benton, Counties of Washington.

PRECAUTIONS FOR POTATOES (West of the Mississippi River)

- Use the broadcast application instead of band for control of moderate* to heavy* infestations of wireworms or nematodes.

*To determine your infestation level, consult local or state recommendations for sampling methods and economic thresholds.

POTATOES (East of the Mississippi River)

		RATE OF MOCAP EC Nematicide-Insecticide		
APPLICATION TIMING	PESTS CONTROLLED	<u>BANDED</u> FL. OZ. / 1000 ROW FEET	<u>BROADCAST</u> GALLONS PER ACRE	APPLICATION DIRECTIONS
East of the Mississippi River prior to planting or at planting or prior to crop emergence	Symphylans Wireworms	4.4	2/3 – 1 (Maximum 6 lb ai/A)	BAND: Uniformly distribute spray in a 12 inch band over the row (36-inch row spacing), either behind the planter shoe next to the closing disk or immediately in front of the planter shoe. Mix with the top 2 to 4 inches of soil during or immediately following treatment.
	Nematodes (suppression of stubby root)	4.4	1 – 1 1/2 (Maximum 9 lb ai/A)	IMPORTANT: Certain early-season environmental conditions and agronomic practices may impose stresses on the potato seed piece resulting in delayed emergence. Under these conditions, the application of MOCAP EC Nematicide-Insecticide as a concentrated band directly in the furrow may increase the potential for delayed emergence. To minimize the contribution of MOCAP EC Nematicide-Insecticide to this effect, apply so as to distribute the product in the soil surrounding the seed piece rather than direct application into the seed furrow. For moderate* to heavy* infestations of wireworms or nematodes use the broadcast application instead of band or sidedress. Wireworm infestations will be especially heavy* in potatoes planted following wireworm host crops such as (but not limited to) sod, grass for seed, pasture, cereal, corn, hay, alfalfa, beans, onions, potatoes, new ground, fallow ground (weedy or cultivated), or ground not farmed for a year or more. BROADCAST: Apply uniformly and immediately incorporate 2 to 4 inches deep using suitable tillage equipment. Apply within 2 weeks before planting until prior to crop emergence.

RESTRICTIONS FOR POTATOES (East of the Mississippi River)

- Make only 1 application of this product per growing season.
- Do not make aerial applications.
- Do not exceed 1 ½ gallons of MOCAP EC Nematicide-Insecticide (9 pounds of active ingredient) per acre per crop for nematodes and 1 gallon (6 pounds of active ingredient) per acre per crop for the other listed pests.
- Do not apply MOCAP EC Nematicide-Insecticide once plants have begun to emerge.

PRECAUTIONS FOR POTATOES (East of the Mississippi River)

- Use the broadcast application instead of band for control of moderate* to heavy* infestations of wireworms or nematodes.

*To determine your infestation level, consult local or state recommendations for sampling methods and economic thresholds.

SWEET POTATOES

		RATE OF MOCAP EC Nematicide-Insecticide	
APPLICATION TIMING	PESTS CONTROLLED	BANDED FL.OZ./1000 ROW FEET	APPLICATION DIRECTIONS
2 to 3 weeks before planting	Nematodes Wireworms White grubs Banded cucumber beetle Flea beetle larvae (palestriped and sweet potato flea beetles)	5.1 to 6.9	BAND: Apply in a band 12 to 15 inches wide on the row (minimum 42-inch row spacing) and incorporate 2 to 4 inches deep during or immediately following treatment. Good results have been obtained by opening the row, applying in a 12 to 15 inch band on the row, bedding over and dragging.

RESTRICTIONS FOR SWEET POTATOES

- Make only 1 application of this product per growing season.

ORNAMENTALS

For use on ornamental plants such as Azalea, Boxwood, Caladium, Camellia, Cape Jasmine, Gardenia, Holly, and Yew.

If plants other than those mentioned on this label require treatment, treat only a few plants until effects can be determined. Some plants or varieties may show temporary growth retardation after treatment. Do not allow MOCAP EC Nematicide-Insecticide to contact the foliage of any plants, as severe injury may result.

PEST	TREATMENT TYPE	APPLICATION DIRECTIONS
Nematodes Symphylans	field nursery stock only	PREPLANT BROADCAST ONLY: Apply 2 quarts of MOCAP EC Nematicide-Insecticide per acre as a uniform broadcast on top of the soil and immediately incorporate to a depth of 2-4 inches. Nursery stock may be transplanted into the treated area after 72 hours. To determine your infestation level, consult local or state recommendations for sampling methods and economic thresholds. Workers involved in transplant operation must wear protective clothing including high top boots, gloves, and chemical resistant apron.

RESTRICTIONS FOR ORNAMENTALS

- Make only 1 application of this product per growing season.
- For use on ornamentals: only preplant broadcast application to soil for field nursery stock, which may only be mechanically transplanted into the treated area, and not until 72 hours after treatment.
- For use in California, Oregon and Washington only.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Do not store in or around home or residence.

PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. 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

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or

store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

RETURNABLE -- REFILLABLE CONTAINERS

Refillable container. Refill this container with MOCAP® EC Nematicide-Insecticide only. Do not reuse this container for any other purpose. After use, return the container to the point of purchase or designated locations. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. For information on the disposal of unused, unwanted product, contact Amvac at 1-323-264-3910. For information on cleanup of spills, contact Amvac at 1-323-264-3910. If the container is not being refilled, return it to the point of purchase.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, when it is used in accordance with such directions; and (c) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE, TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF QUALITY OR PERFORMANCE. 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.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW 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. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW MANUFACTURER OR SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

AMVAC offers this product, and Buyer accepts it, subject to the foregoing Limited Warranty which may be varied only by agreement in writing signed by an authorized representative of AMVAC.

Mocap is a registered trademark of Amvac Chemical Corporation.

NET CONTENTS: 2.5 Gallons, 55 Gallon Drum

Amvac Chemical Corporation
4100 E. Washington Blvd.
Los Angeles, CA
323-264-3910

19/24

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.

AMVAC™
AGRICULTURAL
BULLETIN

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

HOPS

APPLICATION TIMING	PEST CONTROLLED	RATE (QUARTS PER ACRE)	APPLICATION DIRECTIONS
BABY HOPS Post plant, pre-emergence	Symphylans Prionus (long-horned beetle)	2 (on treated area)	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.

ACCEPTED
OCT 31 2013
 Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under:

EPA. Reg. No: 5481-9041

<p>BABY HOPS</p> <p>Pre-plant broadcast and incorporated</p>	<p>Symphylans</p> <p>Prionus (long-horned beetle)</p>	<p>2 (on treated area)</p>	<p>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</p>
<p>PRODUCING HOPS</p> <p>Apply in the spring after pruning, but before stringing or after harvest</p>	<p>Symphylans</p> <p>Prionus (long-horned beetle)</p>	<p>2 (on treated area)</p>	<p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p>

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

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

$A = 3.14 \times \text{radius} \times \text{radius}$

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.

$$B = \left| \frac{A \times \text{Number of emitters per acre}}{144 \text{ square inches per square foot}} \right|$$

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

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

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.

$$Q = \left| \frac{C \times R}{43,560 \text{ square feet per acre}} \right| = \text{quarts of Mocap EC per acre}$$

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

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

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.

$$\text{Broadcast Equivalent Rate} = \left| \frac{\text{Strip or bed width, in inches}}{\text{Center to center row spacing, in inches}} \right| \times R$$

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

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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.

$$\text{Broadcast Equivalent Rate} = \left| \frac{32 \text{ inches}}{120 \text{ inches}} \right| \times 1.33 \text{ quarts of Mocap EC per acre}$$

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.

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