Vigilant® 4SC

Agricultural Miticide
For agricultural use only

Active Ingredient: (% by weight)
bifenazate: hydrazine carboxylic acid, 2-(4-methoxy-
[1,1'-biphenyl]-3-yl) 1-methylethyl ester ................................................. 43.2%
Other Ingredients: ....................................................................................... 56.8%
Total ............................................................................................................. 100.0%
Contains 4 lbs. active ingredient bifenazate per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

IF SWALLOWED:
• Call poison control center or doctor immediately for treatment advice.
• Have person sip a glass of water if able to swallow.
• Do not induce vomiting unless told to do so by the poison control center or doctor.
• Do not give anything by mouth to an unconscious person.

EMERGENCY ASSISTANCE: Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
MEDICAL EMERGENCY 800-292-5898
TRANSPORTATION EMERGENCY (CHEMTREC) 800-424-9300
PRODUCT SAFETY DATA (MSDS) 866-423-8569

For PRODUCT USE INFORMATION: Call 800-423-8569

EPA REG. NO. 400-514
EPA EST. NO. 37429-GA-2, 70815-GA-1
031/090414

Manufactured for:
MacDermid Agricultural Solutions, Inc.
245 Freight Street
Waterbury, CT 06702-1818
DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (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 worker entry into treated areas during the restricted entry interval (REI) of 12 hours. [Exceptions are listed under the Use Instructions for each crop.]

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- coveralls
- shoes plus socks
- chemical-resistant gloves made of any waterproof material

USE INFORMATION

VIGILANT®-4SC is a suspension concentrate (flowable). It is a selective miticide for the control of a variety of mite pests on the crops listed on this label. When used as directed and applied to the foliage, it provides quick knockdown through contact activity, and long residual control. Due to its carbamate chemistry, mode of action and selective nature, VIGILANT 4SC is relatively inactive against beneficial/predaceous mites and insects and therefore is compatible with IPM and resistance management programs.

VIGILANT 4SC is not systemic in action; therefore complete coverage of both upper and lower leaf surfaces is necessary for effective control. ALWAYS SHAKE OR STIR THIS PRODUCT WELL BEFORE USE.

MIXING INSTRUCTIONS

Fill spray tank with 1/4 the desired amount of water. Then add the required amount of VIGILANT 4SC with agitation running to fully disperse the product. Then fill the tank with the remaining amount of required water.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and Other Handlers Must Wear: Long-sleeved shirt & long pants; shoes plus socks. When not using a closed system, wear apron and chemical-resistant gloves made of any waterproof material for mixing/loading activities. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds, estuarine/marine invertebrates, and fish. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are foraging the treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

Like many pesticides, VIGILANT 4SC stability can be impacted by high pH and high temperature. For optimum performance, maintain spray mixtures containing VIGILANT 4SC within a range of pH 5.5 to 6.5.

Restrictions: Tank mixtures are permitted only in those states where the tank mix portion is registered. When tank mixing, follow the label directions for most restrictive of label precautions and limitations.

Compatibility: To obtain broad spectrum insect control, VIGILANT 4SC can be tank-mixed with other insecticide products. However, due to variations in water quality, e.g., hardness and pH, it is required that users conduct small scale trials under local conditions to ensure compatibility prior to any large scale use.

USE RATES AND DIRECTIONS

Refer to USE INSTRUCTIONS table for application rates, application number, and PHI for labeled crops.

For ground application, also refer to USE INSTRUCTIONS table for minimum gallons of spray solution per acre using equipment such as, but not limited to, compressed air, hydraulic ground boom or air-blast sprayers.

For aerial application, also refer to USE INSTRUCTIONS table for minimum gallons of spray solution per acre (or the minimum permitted by your state, but not less than shown) using equipment such as, but not limited to, fixed-wing aircraft or helicopter. Always use a spray volume adequate to assure complete coverage of the crop canopy.

For chemigation application, refer to CHEMIGATION USE PRECAUTIONS FOR TIMOTHY section; USE INSTRUCTIONS table exhibits application rate range. Only one application may be made per year. Sprinkler systems must be operated at 80 to 100% during treatment application to apply the minimum amount of water possible. To provide maximum residual control, make application as soon as mites appear. Use the lower rate where mite infestations are light. The higher rate may be required for heavy infestations or for extended residual control.

When used as directed, VIGILANT 4SC is effective for the control of a variety of mite species, especially spider mites, red mites and grass mites. NOTE: It is not effective against rust mites, broad mites and flat mites. VIGILANT 4SC is primarily active on the motile stage of mites, but also has ovicidal activity against spider mites (Tetranychus species).

Restrictions:
- Rotation Crops - This product has a plantback restriction of 30 days. Do not plant another crop within 30 days after last VIGILANT application due to chances of bifenazate residues showing up in rotational crops.

Do not exceed the maximum amount of bifenazate allowed per crop per season, regardless of the bifenazate-containing product(s) used.
<table>
<thead>
<tr>
<th>CROP</th>
<th>AMOUNT ACRAMITE-4SC PER ACRE (A)</th>
<th>MINIMUM GALLONS PER ACRE</th>
<th>CHEMIGATION ACRE INCHES OF WATER</th>
<th>TOTAL NUMBER OF SPRAYS PER SEASON</th>
<th>MINIMUM DAYS BETWEEN APPLICATIONS</th>
<th>HARVEST DAYS AFTER APPLICATION (PHI DAYS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOPS</td>
<td>12 - 24</td>
<td>50</td>
<td>—</td>
<td>1</td>
<td>—</td>
<td>14</td>
</tr>
<tr>
<td>TIMOTHY</td>
<td>16 - 24</td>
<td>20</td>
<td>10(C)</td>
<td>0.1-0.2(D)</td>
<td>1</td>
<td>Forage: 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hay: 7</td>
</tr>
<tr>
<td>TREE NUTS:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALMOND</td>
<td>16 - 24</td>
<td>50</td>
<td>—</td>
<td>1</td>
<td>—</td>
<td>7</td>
</tr>
<tr>
<td>FILBERT (Hazelnut)</td>
<td>16 - 24</td>
<td>50</td>
<td>—</td>
<td>1</td>
<td>—</td>
<td>14</td>
</tr>
<tr>
<td>PECANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PISTACHIOS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WALNUTS (Black &amp; English)</td>
<td>16 - 24</td>
<td>50</td>
<td>—</td>
<td>1</td>
<td>—</td>
<td>7</td>
</tr>
<tr>
<td>OTHERS (see footnote B for crops in addition to those listed above)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(A) Use the higher rate under heavy mite pressure. For maximum control, applications must be made as soon as mites appear.
(B) TREE NUTS: Other crops which may be treated with VIGILANT 4SC with the same use instructions (14 day PHI) are: Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Hickory nut, Macadamia nut (bush nut).
(C) Minimum gallonage per acre or the minimum permitted by your state, but not less than shown.
(D) Refer to USE RATES AND DIRECTIONS and CHEMIGATION USE PRECAUTIONS sections.
CHEMIGATION USE PRECAUTIONS FOR TIMOTHY
A. Apply this product only through sprinkler systems, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
B. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
C. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
D. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
E. 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 the necessary adjustments should the need arise.
F. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
G. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
H. The pesticide injection pipeline must also 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.
I. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
J. 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.
K. 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.
L. Do not apply when wind speed favors drift beyond the area intended for treatment.
M. Constant agitation must be maintained in the chemical supply tank during the entire period of miticide application.
N. Inject the product with a positive displacement pump into the main line ahead of a right angle turn, to insure adequate mixing.
O. Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness.
P. Do not apply when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.
Q. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of more dilute mixture per hour. Pesticide should be applied continuously for the duration of the water addition.
R. Where sprinkler irrigation patterns do not overlap sufficiently unacceptable mite control may result. Where sprinkler distribution patterns overlap excessively crop injury may result.
S. Check with state lead agencies for state specific chemigation requirements.

STRATEGIES FOR RESISTANCE PREVENTION
When used as directed, VIGILANT 4SC combines high activity on mites with safety to beneficial/predaceous mites and insects. In addition, the carbamate chemistry of VIGILANT 4SC provides a means of controlling mites which have developed resistance to commonly used products. These properties can result in fewer miticide/insecticide applications as well as general reduction in the problems caused by resistance.
VIGILANT 4SC has demonstrated no cross resistance with other commercial miticides. VIGILANT 4SC contains an active ingredient classified as a Group un acaricide. VIGILANT 4SC is suitable to be used as a rotational partner with other miticides.
Follow the mite control strategies below:
- Incorporate IPM techniques into your insect control program.
- Ensure thorough spray coverage to all foliage.
- Scout regularly and apply VIGILANT 4SC as soon as infestations are observed. Do not wait until local populations have established.
- Always apply VIGILANT 4SC at the required rates and according to label information.
- Unless labeled otherwise, use only one application of VIGILANT 4SC per year, and rotate to a product with a different mode of action grouping.
- Because of its selectivity, VIGILANT 4SC can be used in conjunction with most biological control organisms available for mite control.

VIGILANT 4SC, when used as directed, does not adversely affect populations of beneficial/predaceous mites and insects including:

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predatory mite</td>
<td>Amblyseius fallacis</td>
</tr>
<tr>
<td>Predatory mite</td>
<td>Phytoseiulus persimilis</td>
</tr>
<tr>
<td>Western predatory mite</td>
<td>Typhlodromus occidentalis</td>
</tr>
<tr>
<td>Predatory mite</td>
<td>Typhlodromus pyri</td>
</tr>
<tr>
<td>Predatory mite</td>
<td>Zetzeella mali</td>
</tr>
<tr>
<td>Seven-spotted lady beetle</td>
<td>Coccinella septempunctata</td>
</tr>
<tr>
<td>Spider mite destroyer</td>
<td>Stethorus punctum</td>
</tr>
<tr>
<td>Common lacewing</td>
<td>Chrysopa carnea</td>
</tr>
<tr>
<td>Insidious flower bug</td>
<td>Orius insidiosus</td>
</tr>
<tr>
<td>Six-spotted thrip</td>
<td>Sclothrips sexmaculatus</td>
</tr>
<tr>
<td>Western flower thrip</td>
<td>Frankliniella occidentalis</td>
</tr>
</tbody>
</table>

The use of these organisms in conjunction with VIGILANT 4SC is encouraged as a means of reducing the number of chemical applications.
**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in a dry location.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:**

Nonrefillable containers equal to or less than 5 gallons. Do not reuse or refill this container. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council (ACRC) at 1-877-952-2272 (toll free) or www.acrecycle.org. 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. If pressure rinsing, empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration. Do not burn, unless allowed by state and local ordinances.

**IMPORTANT NOTICE**—Sellers warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, expressed or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and to the extent consistent with applicable law, the buyer assumes the risk of any such use.

©VIGILANT is a Registered Trademark of MacDermid Agricultural Solutions, Inc.

©COPYRIGHT 2014, MacDermid Agricultural Solutions, Inc.