



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 30, 2023

Danielle Ohlendorf  
Regulatory Affairs Manager  
Bayer CropScience LP  
800 N. Lindbergh Blvd.  
St. Louis MO, 6317

Subject: Registration Review Label Mitigation for Spiromesifen  
Product Name: Oberon 2 SC Insecticide/Miticide  
EPA Registration Number: 264-719  
Decision Number: 588520

Dear Ms. Ohlendorf

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Spiromesifen Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Scott Campbell via email at [Campbell.Scott@epa.gov](mailto:Campbell.Scott@epa.gov)

Sincerely,

A handwritten signature in blue ink, appearing to read "Gene Benbow".

Gene Benbow, Senior Biologist  
Invertebrate and Vertebrate Branch 3  
Registration Division (7505T)  
Office of Pesticides Programs

Enclosure

# OBERON<sup>®</sup> 2 SC Insecticide/Miticide

**ACTIVE INGREDIENT:**

Spiromesifen: 2-oxo-3-(2,4,6-trimethylphenyl)-1-oxaspiro[4.4]non-3-en-4-yl 3,3-dimethylbutanoate 23.1%

**OTHER INGREDIENTS:** 76.9%

**TOTAL:** 100.0%

OBERON 2 SC INSECTICIDE/MITICIDE contains 2 pounds of spiromesifen per US gallon (240 grams per liter).

**EPA Reg. No. 264-719**

**EPA Est. No.**

**STOP – Read the label before use.  
KEEP OUT OF REACH OF CHILDREN  
CAUTION**

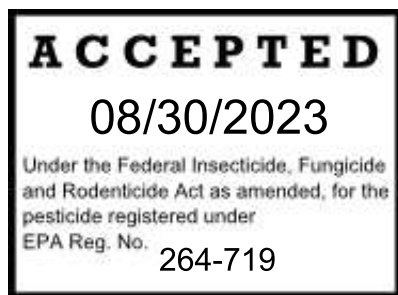
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

**For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577  
For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)**

See [Back][Side] Panel for First Aid Instructions and [Leaflet][Booklet] for Complete Precautionary Statements and Directions for Use. (Note to reviewer: Location of additional precautionary statements, directions for use will vary between those listed, depending on container type/size.)

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor for treatment advice.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.</b></p> <p><b>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</b></p>	
<p><b>NOTE TO PHYSICIAN:</b> No specific antidote is known. Treat symptomatically.</p>	



# PRECAUTIONARY STATEMENTS

## HAZARD TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

All handlers (mixers, loaders, and applicators, or individuals performing one or more of these tasks) must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks, and
- Chemical resistant gloves made of any waterproof material

In addition to the PPE for all handlers, **mixer/loaders supporting aerial applications to: corn, cotton, potatoes, and tuberous and corm vegetables must use closed mixing/loading systems** that meet the requirements listed in the WPS for agricultural pesticides [40 CFR 170.607(d)(2)(i) &(ii)] for dermal protection.

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

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607 (d-f)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Removable chemical extraction probes (also known as "stingers") used in suction/extraction systems must be rinsed within the pesticide container prior to removal.

### 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.
- Remove Personal Protective Equipment 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 pesticide is toxic to fish and aquatic invertebrates. Do not contaminate surface water through spray drift. 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 cleaning equipment or disposing of equipment washwater.

#### Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of spiromesifen from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

#### Groundwater Advisory

Degradates of spiromesifen have properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

## 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.**

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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticides.

### 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) 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 during the restricted-entry interval (REI). The REI is listed in the Directions for Use associated with the 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, are:

- Coveralls over long-sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks

## INFORMATION

OBERON 2 SC INSECTICIDE/MITICIDE Insecticide/Miticide is a Suspension Concentrate formulation. The active ingredient contained in OBERON 2 SC INSECTICIDE/MITICIDE is active by contact on all mite development stages. However, mite juvenile stages are often more susceptible than adults. OBERON 2 SC INSECTICIDE/MITICIDE is also highly effective against whitefly nymphs, plus it has a significant effect on the otherwise difficult to control pupal stage. Make applications to coincide with early threshold level in developing mite population. OBERON 2 SC INSECTICIDE/MITICIDE can be applied by air, ground equipment, or through chemigation. However, thorough coverage of all plant parts is required for optimum performance. Evaluate the performance of OBERON 2 SC Insecticide/Miticide no sooner than 4 – 10 days following application.

### RESISTANCE MANAGEMENT

OBERON 2 SC INSECTICIDE/MITICIDE contains an active ingredient with lipid biosynthesis inhibitor (LBI) mode of action, classified as a Group 23 product. Studies to determine cross-resistance of Group 23 products with other chemical classes have demonstrated no cross-resistance. Bayer CropScience strongly encourages that OBERON 2 SC INSECTICIDE/MITICIDE, applied alone or in tankmix combination with another Group 23 product, be applied in a block rotation or windowed approach with products from other chemical classes having a different mode of action before using additional applications of other Group 23 products against the same target pest. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying a pest's ability to develop resistance to a given class of chemistry.

Contact your local extension specialist, certified crop advisor and/or Bayer CropScience representative for additional resistance management or IPM recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://irac-online.org>.

### TO DELAY INSECTICIDE RESISTANCE TAKE ONE OR MORE OF THE FOLLOWING STEPS:

- Rotate the use of OBERON 2 SC INSECTICIDE/MITICIDE or other Group 23 insecticides/acaricides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture.
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.

- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact Bayer CropScience LP at 1-866-99BAYER (1-866-992-2937). You can also contact your pesticide distributor or university extension specialist to report resistance.

## ENDANGERED SPECIES

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal law.

Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include checking to confirm hive locations before spraying and applying pesticides at twilight and at night when pollinators are less likely foraging. For additional resources on pollinator best management practices, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>

Pollinator protection plans are developed by states/tribes to promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees to pesticides. Visit available state/tribal plans for additional information on how to protect pollinators.

**How to Report Bee Kills:** It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at [beekill@epa.gov](mailto:beekill@epa.gov). To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center's website: [http://npic.orst.edu/reg/state\\_agencies.html](http://npic.orst.edu/reg/state_agencies.html)

## APPLICATION INSTRUCTIONS

For all insects, timing of application should be based on careful scouting and local thresholds.

For low growing berries in Crop Group 13-07G, leafy green vegetables in Crop Group 4A, fruiting vegetables in Crop Group 8, cucurbits, and leafy brassica greens, applications using mechanically-pressurized handguns are prohibited.

### Foliar Spray Applications

Foliar applications may be made using properly calibrated ground sprayers, fixed- or rotary-winged aircraft or through properly designed, sprinkler-type, chemigation equipment (See *Chemigation Systems*). Thorough and uniform coverage of plants, with direct contact of the spray mixture to the target pests, is required for satisfactory control.

Do not apply where thorough coverage of plant is not possible. Applications made with less than thorough coverage may result in slower activity and/or less overall control from a single application than an application made with higher gallonages.

**Ground applications** must be made in a minimum of **10 gallons/A**.

**Aerial applications** must be made in a minimum of **5 gallons/A**. Aerial applications made to dense canopies may not provide sufficient coverage of lower leaves to provide pest control. Higher labeled rates of OBERON 2 SC INSECTICIDE/MITICIDE may be necessary for aerial applications. Do not apply directly to bodies of water. Time applications to allow sprays to dry prior to rain or sprinkler irrigations.

**Chemigation applications** (See *Chemigation Systems*) must be made as concentrated as possible. For best results apply at 100% input/travel speed, for center pivots or 0.10 inch (2,716 gallons) up to 0.15 inch (4,073 gallons) of water/A, for other systems. Higher labeled rates of OBERON 2 SC INSECTICIDE/MITICIDE may be necessary for chemigation applications.

### Irrigation Timing

If irrigation is used, conduct irrigations efficiently to prevent excessive loss of irrigation waters through runoff. Time the applications to allow sprays to dry prior to rain or sprinkler irrigations. Allow at least 48 hours between application of product and any irrigation that results in surface runoff into lakes, reservoirs, rivers, permanent streams, marshes, potholes, vernal pools, natural ponds, estuaries, or commercial fish farm ponds.

## CHEMIGATION SYSTEMS

OBERON 2 SC INSECTICIDE/MITICIDE may be applied through irrigation systems (chemigation) only on those crops listed under the crop Application Directions. Do not allow chemigation to run off field.

**Types of Irrigation Systems:** Apply OBERON 2 SC INSECTICIDE/MITICIDE only through sprinkler, including center pivot, lateral move, side roll, or overhead solid set irrigation systems. Do not apply OBERON 2 SC INSECTICIDE/MITICIDE through any other type of irrigation system.

### DIRECTIONS FOR ALL APPROVED TYPES OF IRRIGATION SYSTEMS

**Uniform Water Distribution and System Calibration:** The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The

system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

**Chemigation Monitoring:** 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.

**Drift:** Do not apply when wind speed favors drift beyond the area intended for treatment.

**Required System Safety Devices:** 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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. 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.

**Using Water from Public Water Systems:** Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regular serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection. 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. 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. 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.

**Cleaning the Chemical Injection System:** In order to accurately apply pesticides, the chemical injection system must be kept clean; free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

**Flushing the Irrigation System:** At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

#### **Equipment Area Contamination Prevention**

Plug nozzles that are in the immediate area of control panels, chemical supply tanks, pumps and system safety devices to prevent chemical contamination of these areas.

**Center-Pivot and Automatic-Move Linear Systems:** Inject the specified dosage per acre continuously for one complete revolution or move of the system. DO NOT USE END GUNS. Run the system at maximum speed.

**Solid Set and Manually Controlled Linear Systems:** Inject during the last 30 to 60 minutes of regular irrigation period or as a separate 30 to 60 minute application not associated with a regular irrigation. DO NOT USE END GUNS.

## **MANDATORY SPRAY DRIFT MANAGEMENT**

Aerial Applications:

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy unless a greater application height is necessary for pilot safety.
- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 641 (ASABE S641). If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

#### Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

## SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### Controlling Droplet Size – Aircraft

- Adjust Nozzles - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

#### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

#### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### WIND

Drift potential generally increases with wind speed. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### Boomless Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

#### Handheld Technology Applications:

Take precautions to minimize spray drift.



## FOR USE IN CALIFORNIA

Allow growth of a vegetative filter strip within 25 feet (on which the product should not be applied) along lakes, reservoirs, rivers, permanent streams, marshes, potholes, vernal pools, natural ponds, estuaries, or commercial fish farm ponds.

## MIXING INSTRUCTIONS

Mix pesticides in areas not prone to runoff such as concrete mixing/loading pads, disked soil in flat terrain or graveled mix pads, or use a suitable method to contain spills and/or rinsate. Properly empty and triple-rinse pesticide containers at time of use.

### Mixing and Loading Requirements

To help prevent potential contamination of groundwater, use a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading area and potential surface to groundwater conduits such as field sumps, uncased well heads, sink-holes, or field drains.

## COMPATIBILITY

OBERON 2 SC INSECTICIDE/MITICIDE is physically and biologically compatible with many registered pesticides and fertilizers or micronutrients. When considering mixing OBERON 2 SC INSECTICIDE/MITICIDE with other pesticides, or other additives, first contact your supplier for advice. For further information, contact your local Bayer Representative. If your supplier and Bayer Representative have no experience with the combination you are considering, conduct a test to determine physical compatibility. To determine physical compatibility, add the required proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

## ORDER-OF-MIXING

OBERON 2 SC INSECTICIDE/MITICIDE may be used with other recommended pesticides, fertilizers and micronutrients. The proper mixing procedure for OBERON 2 SC INSECTICIDE/MITICIDE alone or in tank mix combinations with other pesticides is:

- 1) Fill the spray tank 1/4 to 1/3 full with clean water;
- 2) While recirculating and with the agitator running, add any products in PVA bags (**See Note**). Allow time for thorough mixing;
- 3) Continue to fill spray tank with water until 1/2 full;
- 4) Add any other wettable powder (WP) or wettable granules (WG) products;
- 5) Add the required amount of OBERON 2 SC INSECTICIDE/MITICIDE, and any other "flowable" (FL or SC) type products;
- 6) Allow enough time for thorough mixing of each product added to tank;
- 7) If applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers and micronutrients.
- 8) Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

**NOTE:** Do not use PVA packets in a tank mix with products that contain boron or release free chlorine. The resultant reaction of PVA and boron or free chlorine is a plastic that is not soluble in water or solvents.

## ROTATIONAL PLANT-BACK INTERVALS<sup>1</sup>

**Immediate plant-back:** Cotton, Field Corn, Pop Corn, Sweet Corn, Fruiting Vegetables, Leafy Vegetables, Cucurbits, Tuber Vegetables (Potatoes), Strawberry

**30-day plant-back:** Alfalfa, Barley, Bulb vegetables (crop group 3-07), Oat, Sugarbeets, Wheat.

**12-month plant-back:** All other crops

<sup>1</sup> Cover Crops for soil building or erosion control may be planted at any time, but do not graze or harvest for food or feed.

## FIELD CROPS

For all crops, apply specific dosage of OBERON 2 SC INSECTICIDE/MITICIDE as needed for control. Complete coverage of the foliage is necessary for optimal control. An adjuvant may be used to improve coverage and control. For best results apply when whitefly or mite populations begin to build and before a damaging population becomes established. OBERON 2 SC INSECTICIDE/MITICIDE is effective against the egg and nymphal stages of whiteflies and mites, therefore, apply at these stages. OBERON 2 SC INSECTICIDE/MITICIDE will not knock down adult whitefly populations. Rate range is provided and is generally dependent on size of the plant and density of the foliage. Apply when colonies first appear and prior to leaf damage or discoloration. Apply in adequate water for uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. If needed, repeat applications as specified within crop - specific use directions.

<b>CORN, (FIELD, POP, SWEET)</b>	
<b>PESTS CONTROLLED</b>	<b>RATE PER APPLICATION fluid ounces/Acre</b>
Banks grass mite Twospotted spider mite	5.7 – 17.3
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Pre-harvest Interval (PHI): <ul style="list-style-type: none"> <li>○ Field Corn: green forage and silage - 5 days; grain or stover – 30 days.</li> <li>○ Popcorn: green forage and silage - 5 days; grain or stover – 30 days.</li> <li>○ Sweet Corn: green forage, silage, and sweet corn for fresh consumption - 5 days; grain or stover – 30 days.</li> </ul> </li> <li>• Maximum single application rate: [17.3 fl oz/acre of OBERON 2 SC (0.27 lb/acre spiromesifen)]</li> <li>• Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]</li> <li>• Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]</li> <li>• [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 17.3 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]</li> <li>• Minimum retreatment interval: 14 days</li> <li>• Restricted Entry Interval (REI): 12 hours following application</li> <li>• Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.</li> </ul> <b>Note:</b> See CHEMIGATION statement in Application Guidelines section of this label.	

<b>COTTON</b>	<b>RATE PER APPLICATION fluid ounces/Acre</b>	
<b>PESTS CONTROLLED</b>	<b>EARLY SEASON</b>	<b>MID-LATE SEASON</b>
Carmine spider mite Desert spider mite Pacific spider mite Strawberry spider mite Twospotted spider mite Whiteflies (including Silverleaf and Sweet potato)	6.0 - 10.75	8.0 – 10.75
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Pre-harvest Interval (PHI): 30 days.</li> <li>• Maximum single application rate: [10.75 fl oz/acre of OBERON 2 SC (0.168 lb/acre spiromesifen)]</li> <li>• Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]</li> <li>• Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]</li> <li>• [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 10.75 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]</li> <li>• Minimum retreatment interval: 7 days</li> <li>• Restricted Entry Interval (REI): 12 hours following application</li> <li>• Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.</li> <li>• Early Season: apply by ground rig when cotton is less than 10 inches tall and thorough coverage of plant canopy can be achieved.</li> <li>• Mid-late season: apply by air or ground.</li> </ul>		

## VEGETABLE CROPS

For all crops, apply specific dosage of OBERON 2 SC INSECTICIDE/MITICIDE as needed for control. Complete coverage of the foliage is necessary for optimal control. An adjuvant may be used to improve coverage and control. For best results apply when whitefly or mite populations begin to build and before a damaging population becomes established. OBERON 2 SC INSECTICIDE/MITICIDE is effective against the egg and nymphal stages of whiteflies and mites, therefore apply at these stages. OBERON 2 SC INSECTICIDE/MITICIDE will not knock down adult whitefly populations. Rate range is provided and is generally dependent on size of the plant and density of the foliage. Apply when colonies first appear and prior to leaf damage or discoloration. Apply in adequate water for uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. If needed, repeat applications at 7- to 10-day intervals.

### CUCURBIT VEGETABLES (Crop Group 9):

**Chayote (fruit), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourd (includes, hyotan, cucuzza, hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), muskmelon (includes cantaloupe), pumpkin, summer squash, winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), watermelon**

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Twospotted spider mite, Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	7.0 – 8.5

#### Restrictions:

- Pre-harvest Interval (PHI): 7 days.
- Maximum single application rate: [8.5 fl oz/acre of OBERON 2 SC (0.133 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 8.5 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI): 12 hours following application
- Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.

### FRUITING VEGETABLES (except Cucurbits) (Crop Group 8):

**Eggplant, groundcherry (*Physalis* sp.), pepino, pepper (includes: bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), tomatillo, and tomato**

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Broad mite Potato/Tomato Psyllid Tomato russet mite Twospotted spider mite Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	7.0 – 8.5

#### Restrictions:

- Pre-harvest Interval (PHI): 1 day.
- Maximum single application rate: [8.5 fl oz/acre of OBERON 2 SC (0.133 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 8.5 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI): 12 hours following application
- Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.

**LEAFY GREENS VEGETABLES (Crop Subgroup 4A):**

Amaranth (Chinese spinach), arugula (roquette), chervil, edible-leaved and garland chrysanthemum, corn salad, upland and garden cress, dandelion, dock (sorrel), endive (escarole), head and leaf lettuce, orach, parsley, garden and winter purslane, radicchio (red chicory), spinach, New Zealand and vine spinach

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	7.0 – 8.5

**Restrictions:**

- Pre-harvest Interval (PHI): 7 days.
- Maximum single application rate: [8.5 fl oz/acre of OBERON 2 SC (0.133 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 8.5 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI): 12 hours following application
- Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.

**BRASSICA LEAFY VEGETABLES**

Broccoli and Chinese (gai lon) broccoli, Broccoli raab (rapini), Brussels sprouts, cabbage, Chinese (bok choy and napa) cabbage, Chinese mustard (gai choy) cabbage, cauliflower, cavalo broccolo, collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, and rape greens

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	7.0 – 8.5

**Restrictions:**

- Pre-harvest Interval (PHI): 7 days.
- Maximum single application rate: [8.5 fl oz/acre of OBERON 2 SC (0.133 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [3 (at 7.47 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 8.5 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI):
  - Leafy Brassica Greens: The REI is 12 hours. Do not allow workers to harvest until 14 days after application.
  - Cauliflower: The REI is 12 hours. Do not allow workers to perform tying/training or harvest until 14 days after application.
- Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.

**POTATO and TUBEROUS and CORM VEGETABLES (Crop Subgroup 1C):**

**Arracacha, arrowroot, artichoke (Chinese, Jerusalem), artichoke (Jerusalem), canna (edible), cassava (bitter, sweet), chayote (root), chufa, dasheen, ginger, leren, potato, sweet potato, tanier, turmeric, yam (bean, true)**

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Potato/Tomato Psyllid Twospotted spider mite Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	8.0 – 16.0

**Restrictions:**

- Pre-harvest Interval (PHI): 7-days.
- Maximum single application rate: [16.0 fl oz/acre of OBERON 2 SC (0.25 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [2 (at 11.2 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 16.0 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI):
  - Tuberous and Corm Vegetables (Crop Subgroup 1C): The REI is 12 hours. Do not allow workers to perform hand-set irrigation activities until 11 days after application.
  - Potato: The REI is 12 hours. Do not allow workers to perform hand-set irrigation activities until 11 days after application.
- Minimum application volume: 10.0 GPA – ground, 5.0 GPA – aerial application.

**Note:**

See CHEMIGATION statement in *Application Guidelines* section of this label.

**LOW GROWING BERRY (Crop Subgroup 13-07-G):**

**Bearberry, Bilberry, Blueberry (lowbush), Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Strawberry**

PESTS CONTROLLED	RATE PER APPLICATION fluid ounces/Acre
Twospotted spider mite Whiteflies (Including Silverleaf, Sweet potato and Greenhouse)	12.0 – 16.0

**Restrictions:**

- Pre-harvest Interval (PHI): 3 days.
- Maximum single application rate: [16.0 fl oz/acre of OBERON 2 SC (0.25 lb/acre spiromesifen)]
- Maximum annual application rate: [22.4 fl oz/acre of OBERON 2 SC (0.35 lb/acre spiromesifen)]
- Maximum number of applications per year: [1 (at 16.0 fl oz/acre of OBERON 2 SC)]
- [Note to reviewer: The rates and number of applications listed in the above three bullets must be consistent with the rate(s) listed under 'Application Rate' above. The maximum single rate must not exceed 16.0 fl oz/acre and the maximum annual rate must not exceed 22.4 fl oz/acre of OBERON 2 SC.]
- Minimum retreatment interval: 7 days
- Restricted Entry Interval (REI): 12 hours following application
- Minimum application volume: 100.0 GPA – ground. **DO NOT APPLY BY AERIAL APPLICATION.**

## **STORAGE AND DISPOSAL**

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

### **PESTICIDE STORAGE**

OBERON 2 SC INSECTICIDE/MITICIDE is packaged in poly-ethylene containers. Do not allow product or containers to freeze. Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of the reach of children, preferable in a locked storage area.

### **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 refill or reuse. 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  $\frac{1}{4}$  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. Then offer for recycling, if available, or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

## IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. To the extent allowed by law, all such risks shall be assumed by the user or buyer.

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