



We create chemistry

Mefentrifluconazole	Group	3	Fungicide
Boscalid	Group	7	Fungicide

# SPECIMEN

# Zorina™

## Fungicide

† For use in disease control in the following crops: alfalfa, canola, legume vegetables (including beans, dried and succulent; and peas, dried shelled and succulent), soybean and edamame, and sunflower.

† See **Detailed Direction For Use** for detailed crop listings.

### Active Ingredients\*:

mefentrifluconazole: 2-[4-(4-chlorophenoxy)-2-(trifluoromethyl)phenyl]-1-(1H-1,2,4-triazole-1-yl)propan-2-ol . . . . .	9.0%
boscalid: 3-pyridinecarboxamide, 2-chloro-N-(4'-chloro(1,1'-biphenyl)-2-yl)- . . . .	18.0%
<b>Other Ingredients:</b> . . . . .	<u>73.0%</u>
<b>Total:</b> . . . . .	100.0%

\* **Zorina™ fungicide** contains 1.67 lbs boscalid and 0.834 lb mefentrifluconazole per gallon.

EPA Reg. No. 7969-508

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION/PRECAUCION**

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.)

See full label for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

**In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).**

**Net Contents:**

BASF Corporation  
26 Davis Drive, Research Triangle Park, NC 27709

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after first 5 minutes; then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</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 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

## Precautionary Statements

### Hazards to Humans and Domestic Animals

**CAUTION.** Harmful if swallowed. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

### Personal Protective Equipment (PPE)

#### Applicators and other handlers must wear:

- Protective eyewear (goggles, face shield or safety glasses)
- Long-sleeved shirt and long pants
- Waterproof or chemical-resistant gloves (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils)
- Shoes plus socks

### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

## USER SAFETY RECOMMENDATIONS

#### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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

**DO NOT** apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

### Groundwater Advisory

Boscalid is known to leach through soil into groundwater under certain conditions as a result of label use. Mefenitrufluconazole has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

### Surface Water Advisory

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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 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 boscalid 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.

## Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the user's possession during application. Read the entire **Directions For Use** and **Conditions of Sale and Warranty** before using this product.

### Use Restrictions

- **DO NOT use in greenhouse production or transplant production systems.**
- **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), restricted-entry intervals, and notification to workers. 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**. The exception is a 5-day REI for cane turning or cane girdling tasks in treated table grapes when grown on T-trellis systems.

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, including plants, soil, or water, is:

- Protective eyewear (goggles, face shield or safety glasses)
- Coveralls
- Waterproof or chemical-resistant gloves (barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, polyvinyl chloride (PVC)  $\geq$  14 mils, or Viton  $\geq$  14 mils)
- Shoes plus socks

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage or disposal.

### Pesticide Storage

Store in original containers only. Keep container closed when not in use. **DO NOT** store near food or feed.

### Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility. If these wastes cannot be disposed of 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 Handling

**Nonrefillable Container. DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Triple rinse containers small enough to shake (capacity  $\leq$  5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 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.

**Triple rinse containers too large to shake (capacity  $>$  5 gallons or 50 pounds) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or a 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.

## In Case of Emergency

In case of large-scale spillage regarding this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

### Steps to be taken in case material is released or spilled:

- Dike and contain spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with water.
- Wash clothing before reuse.
- Keep spill out of all sewers and open bodies of water.

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## Product Information

**Zorina™ fungicide** is a broad spectrum fungicide containing the active ingredients mefentrifluconazole and boscalid in a suspension concentrate. For optimum disease control, apply **Zorina** in a regularly scheduled protective spray program and use in a rotation program with other **non-Group 3** and **non-Group 7** fungicides.

### Mode of Action

Each of the components in **Zorina** provides a different mode of action against plant pathogenic fungi. Mefentrifluconazole inhibits demethylation of sterol biosynthesis (DMI) which disrupts cell membrane synthesis and is classified by FRAC as a **Group 3** fungicide. Boscalid belongs to the group of succinate dehydrogenase inhibitors (SDHI) and is classified by FRAC as a **Group 7** fungicide.

### Resistance Management

For resistance management, **Zorina** contains both a **Group 3** (mefentrifluconazole) and **Group 7** (boscalid) fungicide. Any fungal population may contain individuals naturally resistant to **Zorina** and other **Group 3** or **Group 7** fungicides. A gradual or total loss of pest control may occur over time if these fungicides from these groups are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of **Zorina** or other **Group 3** or **Group 7** fungicides within a growing season sequence with different groups that control the same pathogens.
- Avoid application of more than the maximum number of applications or consecutive sprays of fungicides in the same group in a year, as listed in the crop-specific tables.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such

use is permitted. Use at least the minimum application rate as labeled by the manufacturer.

- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or Integrated Pest Management (IPM) recommendations for specific crops and pathogens.
- For further information or to report suspected resistance consult your local BASF representative, extension specialist, or certified crop advisor.

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## Application Instructions

- Thorough and uniform coverage is required for optimum performance. **Zorina** can be applied by ground or air and through sprinkler irrigation (chemigation) systems.
- Application equipment, including injection systems, must be cleaned thoroughly before and after applying this product, particularly if a product with the potential to injure crops was used before application of **Zorina**. Flush system with clean water.

### Ground Application

- Provides the most thorough and uniform coverage.
- Use a minimum of 10 gallons of spray solution per acre to ensure uniform and thorough canopy penetration and coverage of foliage, bloom and fruit.
- Adjust spray volume and application equipment for uniform and thorough canopy penetration and coverage of foliage, bloom and fruit.

**Zorina** label rates specify the amount of product to apply uniformly over an acre of ground on a broadcast basis. **Zorina** may be banded over rows or plant beds with alleys or row middles left unsprayed. For these uses, reduce rates of **Zorina** in proportion to the area sprayed to avoid application at higher than labeled use rates.

### Calculate the broadcast-equivalent rate for banded application:

$$\begin{array}{rcccl} \text{sprayed bed width} & + & \text{unsprayed row middles width} & = & \text{total row width} \\ \\ \frac{\text{sprayed bed width in inches}}{\text{total row width in inches}} & \times & \text{broadcast rate per acre} & = & \text{band rate per acre} \end{array}$$

**EXAMPLE:** Banded application to 45-inch plant beds separated by 15-inches of unsprayed row middles based on a broadcast rate of 10 ozs/A:

45 inches sprayed bed width	+	15 inches unsprayed row middles width	=	60 inches total row width
45 inches sprayed bed width		10 fl ozs (0.130 lb boscalid and 0.065 lb mefentrifluconazole)	x	7.5 fl ozs (0.098 lb boscalid and 0.049 lb mefentrifluconazole)
60 inches total row width		<b>Zorina™ fungicide</b> per acre		<b>Zorina</b> per acre

## Aerial Application

- For all crops listed in this label, aerial application can be made and thorough coverage is required to obtain optimum disease control. Avoid applications under conditions when uniform coverage cannot be obtained or when spray drift may occur.
- **DO NOT** use less than 2 gallons of spray solution per acre.
- **DO NOT** apply in spray solutions less than 50% water by volume. Reduced spray volumes used in aerial application may result in physical incompatibility, reduced disease control or crop injury, particularly when mixed with other products.

## Field Sprinkler Irrigation (Chemigation) Application

- Apply this product only through field sprinkler irrigation systems including center pivot, lateral move, end tow, slide (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system.
- Add **Zorina** to the pesticide supply tank containing sufficient water to maintain a continuous flow by the injection equipment. In continuous moving systems, inject this product-water mixture continuously, applying the labeled rate per acre for that crop. **DO NOT** apply more than 1/2 inch (13,577 gallons) per acre. In stationary or non-continuous moving systems, inject the product-water mixture in the last 15 to 30 minutes of each set, allowing enough time to apply the crop-specific labeled rate per acre through the sprinkler heads. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Uniform and thorough coverage of foliage is required for control. Maintain constant agitation throughout mixing and application.
- If you have questions about calibration, contact state extension service specialists, equipment manufacturers, or other experts.
- 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 which 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 compatible with pesticides and capable of being fitted with a system interlock.
- Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, must shut the system down and make necessary adjustments must the need arise.
- **DO NOT** connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

## Specific Instructions for Public Water Systems

1. 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 regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow 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 must be discharged into a reservoir tank prior to pesticide introduction. There must be a complete physical break (air gap) between the 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.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. 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.
5. 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.

6. 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.
7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

## 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 are required to use nozzles and pressure that deliver a medium or coarser droplet size (ASABE S572.1).
- **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.
- If the windspeed is 10 mph or less, applicators must use 1/2 swath displacement upwind at the downwind edge of the field. When the windspeed is between 11 to 15 mph, applicators must use 3/4 swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply during temperature inversions.

### Airblast Applications

- Sprays must be directed into the canopy.
- **DO NOT** apply when wind speeds exceed 15 mph at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **DO NOT** apply during temperature inversions.

### Ground Boom Applications

- User must only apply with the release height specified by the manufacturer, but no more than 4 ft above the ground or crop canopy.
- Applicators are required to use nozzles and pressure that deliver a medium or coarser droplet size (ASABE S572.1).
- **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.

## 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.

## 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 - Aircraft

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

### 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 specified 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.

### Release Height - Aircraft

Higher release heights increase the potential for spray drift.

### Boom Height - Ground Boom

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

### 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. Avoid applications during temperature inversions.

## Wind

AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Drift potential generally increases with wind speed. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## Tank Mixing Other Products and Additives

**It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.**

**Zorina™ fungicide** can be tank mixed with other fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants and additives. Always follow the most restrictive label use directions. See the Detailed Use Directions for additional crop-specific information.

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control or injury may result from mixing **Zorina** with other products.

To minimize the likelihood of injury, before using any tank mix previously listed, test the combination on a small portion of the crop to be treated to ensure a phytotoxic response will not occur as a result of application. However, environmental variability precludes direct and consistent projection of small area test results to future use.

When an adjuvant is used with this product, BASF recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

Consult a BASF representative or local agricultural authorities for more information on use of additives or adjuvants with this product.

## Compatibility Test and Mixing Order

If tank mixtures are used, adhere to restrictions due to rates, label specifications and precautions on all labels.

### Compatibility Test

Before mixing components, always perform a compatibility jar test.

1. Add components in the order listed in **Mixing Order** instructions.
  - **For 10 gallons per acre spray volume:** Start with 1 pint (2 cups) of water from the intended source at the source temperature.
  - **For other spray volumes:** Adjust rates accordingly.
  - **Dry product:** Add 2 teaspoons per pound of product per acre.
  - **Liquid product:** Add 1 teaspoon per pint of product per acre.
2. Always cap the jar and invert 10 cycles after component additions.
3. When the components have all been added to the jar, let the solution stand for 15 minutes.
4. **Evaluate** the solution for uniformity and stability. The spray solution must not have free oil on the surface, fine particles that precipitate to the bottom, or thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

### Mixing Order

Make sure each component is thoroughly mixed and suspended before adding tank mix partners. Except when mixing products in PVA bags, maintain constant agitation during mixing and application.

1. **Water** - Fill a thoroughly clean sprayer tank 3/4 full of clean water and begin agitation.
2. **Inductor** - If an inductor is used, rinse it thoroughly after each component has been added.
3. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water-dispersible products** (such as dry flowables, wettable powders, suspension concentrates including **Zorina**, or suspo-emulsions).
  - **Containers 5 gallons or less:** Shake well before adding to the tank.
  - **Containers more than 5 gallons:** Recirculate before adding to the tank.
  - Consult a BASF representative for additional information regarding agitation and recirculation.
5. **Water-soluble products**
6. **Emulsifiable concentrates** (such as oil concentrates when applicable).
7. **Water-soluble additives** such as ammonium sulfate (AMS) or urea ammonium nitrate (UAN) when applicable.
8. **Remaining quantity of water**

## Crop Rotation Restrictions

**Rotation Crops:** Please see the following table for crop rotational restrictions.

Crop or Crop Group	Rotation Interval
Alfalfa Brassicas including broccoli, cauliflower and head cabbages (crop group 5-16) Bulb vegetables including bulb onion, green onion and garlic (crop group 3-07) Cucurbits including cucumber, squash and melons (crop group 9) Fruiting vegetables including tomato, eggplant, peppers (crop group 8-10) Fresh herbs (crop group 25) Leafy vegetables including lettuces, spinach and leafy cabbages (crop group 4-16) Legume vegetables including soybean (crop group 6) Low-growing berries including strawberries (crop group 13-07G) Oilseeds including cotton, sunflower and canola (crop group 20) Peanut Root and tuber vegetables including carrot, potato, and beets (crop groups 1B and 1C) except sugar beet Leaf petiole vegetables including celery (crop group 22B) Any other crop labeled for direct application of a product containing mefentrifluconazole and boscalid	May be planted immediately following the last application
Cereals, including wheat, oats, barley, triticale, rye, rice and corn (crop group 15 and crop group 16) Foliage of legume vegetables (crop group 7) Grass and non-grass animal feeds including clover (crop group 17 and crop group 18), except alfalfa Leaves of root and tuber vegetables (crop group 2) Stalk and stem vegetables, including asparagus (crop group 22A) Sugar beet Sugarcane	May be planted 14 days after the last application
Other food and feed crops not listed above	May not be planted in rotation

## Detailed Directions For Use

### Use Rate Conversion Table

fl ozs Zorina™ fungicide/A	lb mefentrifluconazole/A	lb boscalid/A
10	0.065	0.130
15	0.098	0.196
18.5	0.120	0.241
20	0.130	0.261
25	0.163	0.326
30	0.195	0.391
35	0.228	0.457
37	0.241	0.483
40	0.261	0.522
45	0.293	0.587
50	0.326	0.652
55	0.358	0.718
55.5	0.362	0.724
60	0.391	0.783



## Alfalfa (Crop Group 18) †

Target Diseases	Product Use Rate per Application (fl ozs/Acre)	Maximum Product Rate per Year (fl ozs/Acre)	Minimum Time from Application to Harvest (PHI) (days)
Anthracnose <i>Colletotrichum trifolii</i> Common leaf spot <i>Pseudopeziza medicaginis</i> Leaf spot <i>Leptosphaerulina briosiana</i> Powdery mildew <i>Erysiphe</i> spp. Spring black stem and leaf spot <i>Ascochyta medicaginicola</i> Stagonospora leaf spot <i>Stagonospora melloti</i> Summer black stem and leaf spot <i>Cercospora medicaginis</i> * Southern blight <i>Sclerotium rolfsii</i> * White mold <i>Sclerotinia</i> spp.	10 to 20	60	14

### \* Suppression only

† Not registered for use by California.

### Directions for Use:

Begin applications of **Zorina™ fungicide** prior to the onset of disease.

### Use Restrictions

- **DO NOT** use harvested seed for sprouting.
- Processed seed must be labeled "Not for human or animal consumption" at the processing plant. All alfalfa seed screenings must be disposed of in such a way that they cannot be distributed or used for food or feed.
- No portion of treated plant used for seed production may be grazed, used, or distributed for food or feed purposes.
- **DO NOT** harvest for forage or hay.
- **DO NOT** use on rangeland.
- The minimum retreatment interval is 14 days.
- The minimum preharvest interval is 14 days.
- **DO NOT** make more than 2 applications per cutting.
- **DO NOT** apply more than 20 fl ozs (0.130 lb mefentrifluconazole, 0.261 lb boscalid) per acre per application.
- **DO NOT** make more than 3 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 60 fl ozs (0.39 lb mefentrifluconazole, 0.783 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.39 lb of mefentrifluconazole and 0.85 lb boscalid per acre per year. This includes all products containing mefentrifluconazole or boscalid.
- **DO NOT** make more than two (2) sequential applications of **Zorina** before alternating to a labeled **non-Group 3** or **non-Group 7** fungicide.

## Canola (Rapeseed cultivars and varieties including canola and crambe) (Subgroup 20A) †

Target Diseases	Product Use Rate per Application (fl ozs/Acre)	Maximum Product Rate per Year (fl ozs/Acre)	Minimum Time from Application to Harvest (PHI) (days)
Blackleg <i>Leptosphaeria maculans</i>	15 to 20	40	21
Black spot <i>Alternaria</i> spp.			
White mold <i>Sclerotinia sclerotiorum</i>			

† Not registered for use by California.

### Directions for Use:

For white mold control: Begin applications of **Zorina™ fungicide** at 20% to 50% flowering or prior to the onset of disease.

For all other diseases listed: Begin applications of **Zorina** prior to the onset of disease.

### Use Restrictions

- The minimum retreatment interval is 14 days.
- The minimum preharvest interval is 21 days.
- **DO NOT** apply more than 20 fl ozs (0.130 lb mefentrifluconazole, 0.261 lb boscalid) per acre per application.
- **DO NOT** make more than two (2) sequential applications of **Zorina** before alternating to a labeled **non-Group 3** or **non-Group 7** fungicide.
- **DO NOT** make more than 2 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 40 fl ozs (0.26 lb mefentrifluconazole, 0.522 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.26 lb of mefentrifluconazole and 0.522 lb boscalid per acre per year. This includes all products containing mefentrifluconazole or boscalid.

**Detailed Crop (Subgroup 20A) List** - borage; crambe; cuphea; echium; flax seed; gold of pleasure; hare's ear mustard; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; oil radish; poppy seed; rapeseed; sesame; sweet rocket; cultivars, varieties, and/or hybrids of these.

**Legume Vegetables (including beans, dried and succulent; and peas, dried shelled and succulent) (Crop Group 6) †**

Target Diseases	Product Use Rate per Application (fl ozs/Acre)	Maximum Product Rate per Year (fl ozs/Acre)	Minimum Time from Application to Harvest (PHI) (days)
Alternaria leaf and pod spot <i>Alternaria</i> spp. Ascochyta blight <i>Phoma exigua</i> , <i>Ascochyta</i> spp. Asian soybean rust <i>Phakopsora pachyrhizi</i> Botrytis gray mold <i>Botrytis</i> spp. Cercospora leaf spot <i>Cercospora</i> spp. Mycosphaerella blight <i>Mycosphaerella</i> spp. Powdery mildew <i>Erysiphe polygoni</i> Rust <i>Uromyces appendiculatus</i> White mold <i>Sclerotinia sclerotiorum</i>	18.5 to 20	60	21

† Not registered for use by California.

**Directions for Use:**

Begin applications of **Zorina™ fungicide** prior to the onset of disease.

**Use Restrictions**

- The minimum retreatment interval is 7 days.
- The minimum preharvest interval is 21 days.
- **DO NOT** apply more than 20 fl ozs (0.130 lb mefentrifluconazole, 0.261 lb boscalid) per acre per application.
- **DO NOT** make more than two (2) sequential applications of **Zorina** before alternating to a labeled **non-Group 3** or **non-Group 7** fungicide.
- **DO NOT** make more than 3 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 60 fl ozs (0.39 lb mefentrifluconazole, 0.783 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.39 lb of mefentrifluconazole and 0.96 lb boscalid per acre per year. This includes all products containing mefentrifluconazole or boscalid.
- **DO NOT** feed pea and bean commodities to livestock.

(continued)

## Legume Vegetables (including beans, dried and succulent; and peas, dried shelled and succulent) (Crop Group 6) <sup>†</sup>

(continued)

### Detailed Legume Vegetables (crop group 6) Crop List (except soybean and edamame; see **Soybean and Edamame** detailed use directions)

#### Beans, dried and succulent

- broad bean (fava bean), chickpea (garbanzo bean), guar, jack bean, lablab bean
- **Lupinus spp.:** grain lupin, sweet lupin, white lupin, white sweet lupin.
- **Phaseolus spp.:** field bean, kidney bean, lima bean, navy bean, pink bean, pinto bean, runner bean, snap bean, tepary bean, wax bean.
- **Vigna spp.:** adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean.

#### Peas, dried shelled and succulent

##### Peas, dried shelled

Lentil (*Lens*)

Pea (*Pisum*): Field pea, garden pea, green pea, pigeon pea.

##### Peas, succulent

##### Edible-podded peas

Pea (*Pisum*): dwarf pea, edible-pod pea, pigeon pea, snow pea, sugar snap pea.

Sword Bean

##### Succulent shelled peas

Pea (*Pisum*): cowpea, English pea, garden pea, green pea, pigeon pea.

## Soybean and Edamame (Crop Group 6-22) †

Target Diseases	Product Use Rate per Application (fl ozs/Acre)	Maximum Product Rate per Year (fl ozs/Acre)	Minimum Time from Application to Harvest (PHI) (days)
Alternaria leaf spot <i>Alternaria</i> spp.  Asian soybean rust <i>Phakopsora pachyrhizi</i>  Brown spot <i>Septoria glycines</i>  Cercospora blight <i>Cercospora kikuchii</i>  Frogeye leaf spot <i>Cercospora sojina</i>	15 to 20	40 (soybean) 60 (edamame)	21
Rhizoctonia aerial blight <i>Rhizoctonia solani</i>  White mold <i>Sclerotinia</i> spp.	18.5 to 20		

† Not registered for use by California.

### Directions for Use:

Begin applications of **Zorina™ fungicide** prior to the onset of disease.

### Use Restrictions

- The minimum retreatment interval is 7 days.
- The minimum preharvest interval is 21 days.
- **DO NOT** graze or use for feed within 21 days of application.
- **DO NOT** apply more than 20 fl ozs (0.130 lb mefentrifluconazole, 0.261 lb boscalid) per acre per application.
- **DO NOT** make more than two (2) sequential applications of **Zorina** before alternating to a labeled **non-Group 3** or **non-Group 7** fungicide.

### For soybean:

- **DO NOT** make more than 2 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 40 fl ozs (0.26 lb mefentrifluconazole, 0.522 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.26 lb of mefentrifluconazole and 0.96 lb boscalid per acre per year.  
This includes all products containing mefentrifluconazole or boscalid.

### For edamame:

- **DO NOT** make more than 3 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 60 fl ozs (0.39 lb mefentrifluconazole, 0.783 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.39 lb of mefentrifluconazole and 0.96 lb boscalid per acre per year.  
This includes all products containing mefentrifluconazole or boscalid.



## Sunflower (Subgroup 20B) †

Target Diseases	Product Use Rate per Application (fl ozs/Acre)	Maximum Product Rate per Year (fl ozs/Acre)	Minimum Time from Application to Harvest (PHI) (days)
Alternaria leaf spot <i>Alternaria</i> spp. * Sclerotinia head rot <i>Sclerotinia sclerotiorum</i>	10 to 20	40	21

\* **Suppression only**

† **Not registered for use by California.**

### Directions for Use:

Begin applications of **Zorina™ fungicide** prior to the onset of disease.

### Use Restrictions

- The minimum retreatment interval is 14 days.
- The minimum preharvest interval is 21 days.
- **DO NOT** apply more than 20 fl ozs (0.130 lb mefentrifluconazole, 0.261 lb boscalid) per acre per application.
- **DO NOT** make more than two (2) sequential applications of **Zorina** before alternating to a labeled **non-Group 3** or **non-Group 7** fungicide.
- **DO NOT** make more than 2 applications at 20 fl ozs per acre per year.
- **DO NOT** apply more than 40 fl ozs (0.26 lb mefentrifluconazole, 0.522 lb boscalid) per acre per year.
- **DO NOT** apply more than a total of 0.26 lb of mefentrifluconazole and 0.79 lb boscalid per acre per year. This includes all products containing mefentrifluconazole or boscalid.

## Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently 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 use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

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