



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

September 30, 2019

Lauren Seabrook  
Product Registration Manager  
BASF Corporation  
26 Davis Drive  
Research Triangle Park, NC 27709-3528

Subject: Registration Review Label Mitigation for Dimethomorph  
Product Name: Zampro Fungicide  
EPA Registration Number: 7969-302  
Application Date: 07/05/2018  
Decision Number: 555386

Dear Ms. Seabrook:

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 Dimethomorph 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.

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Decision No. 555386

If you have any questions about this letter, please contact Jaclyn Pyne by phone at 703-347-0445, or via email at [pyne.jaclyn@epa.gov](mailto:pyne.jaclyn@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington".

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure



We create chemistry

Ametoctradin	Group	45	Fungicide
Dimethomorph	Group	40	Fungicide

# Zampro®

## Fungicide

**ACCEPTED**

Sep 30, 2019

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

EPA Reg. No. 7969-302

**For disease control in the following crops: *Brassica* leafy vegetables, bulb vegetables, cucurbit vegetables, fruiting vegetables, grapes, hops, leafy vegetables, and potato**

**Active Ingredients:**

ametoctradin\*: 5-ethyl-6-octyl[1,2,4]triazolo[1,5-a]pyrimidin-7-amine . . . . . 26.9%

dimethomorph\*\*: 4-[3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)-1-oxo-2-propenyl]morpholine . . . . . 20.2%

**Other Ingredients:** . . . . . 52.9%

**Total:** . . . . . 100.0%

\* Equivalent to 2.5 pounds ametoctradin per gallon  
\*\* Equivalent to 1.88 pounds dimethomorph per gallon

**EPA Reg. No. 7969-302**

**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 this label, find someone to explain it to you in detail.)

See inside for additional **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 to an unconscious person.</li> </ul>
<b>If on skin</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 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 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 by 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 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)

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, natural rubber (includes natural rubber blends and laminates)  $\geq$  14 mils, polyethylene, polyvinyl chloride (PVC)  $\geq$  14 mils, or viton  $\geq$  14 mils
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### 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:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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 washwater or rinsate.

### Groundwater

Ametoctradin and its degradates have properties and characteristics associated with chemicals detected in groundwater. These chemicals may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

### Surface Water

Ametoctradin and its degradates may impact surface water quality through spray and runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. Ametoctradin and its degradates are classified as having high-to-medium potential for reaching surface water via runoff for several weeks 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 ametoctradin from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours.

## 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 interval. 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**.

PPE required for early entry into 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:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, made of any waterproof material (such as nitrile, butyl, neoprene, and/or barrier laminate)
- Shoes plus socks

### STORAGE AND DISPOSAL

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

#### Pesticide Storage

Store in a cool, well-ventilated area. **DO NOT** allow to become overheated in storage. Keep container closed when not in use.

#### Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

#### 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 incineration, or by other procedures approved by state and local authorities.

### STORAGE AND DISPOSAL *(continued)*

#### Container Handling *(continued)*

**Triple rinse containers small enough to shake (capacity ≤ 5 gallons) 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 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) 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 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.

### In Case of Emergency

In case of large-scale spill of 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 take if material is released or spilled:

- Dike and contain the 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 soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

### Product Information

This package contains **Zampro® fungicide**, a suspension concentrate (SC) with two active ingredients, ametoctradin and dimethomorph. The active ingredients in **Zampro** belong to two classes of fungicides with different modes of

*(continued)*

action. Preventive applications optimize disease control. To maximize disease control, apply **Zampro® fungicide** in a regularly scheduled protective spray program and use in a rotation program with other fungicides.

**Zampro** is not for use in greenhouse or transplant production.

## Mode of Action

**Zampro** contains two active ingredients, ametoctradin and dimethomorph. Ametoctradin, a strong inhibitor of mitochondrial respiration in complex III (cytochrome bc1) of Oomycetes fungi, is classified as a **Group 45** fungicide. Dimethomorph belongs to the group of cell-wall synthesis inhibitors and is classified as a **Group 40** fungicide.

## Resistance Management

**Zampro** contains ametoctradin and dimethomorph, a pre-mix of **Group 45** and **Group 40** fungicides, and is effective against pathogens resistant to fungicides with modes of action different from those of target site **Group 45** and **Group 40**.

Fungal isolates resistant to **Group 45** or **Group 40** fungicides may eventually dominate the fungal population if **Group 45** or **Group 40** fungicides are used predominantly and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species, especially if resistance to either **Group 45** or **Group 40** fungicides is already present in the pathogen population. This may result in reduction of disease control by **Zampro** or other **Group 45** or **Group 40** fungicides.

To maintain the performance of **Zampro** in the field, **DO NOT** exceed the total number of sequential applications of **Zampro** per year stated in the **Restrictions** section and **Table 2. Zampro® fungicide Crop-specific Requirements**. Adhere to the label instructions regarding the consecutive use of **Zampro** or other target-site-of-action **Group 45** or **Group 40** fungicides that have a similar site of action on the same pathogen.

## Resistance Management Advisory

The following recommendations may be considered to delay the development of fungicide resistance:

- 1. Tank mixtures** - Use tank mixtures with effective fungicides from different target-site-of-action groups that are registered/permitted for the same use and that are effective against the pathogens of concern. Use at least the minimum labeled rates of each fungicide in the tank mix.
- 2. IPM** - Integrate **Zampro** into an overall disease and pest management program. Follow cultural practices known to reduce disease development. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. **Zampro** may be used in agricultural extension advisory (disease forecasting) programs, which recommend application timing based on environmental factors favorable for disease development.

- 3. Monitoring** - Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If a **Group 45** or **Group 40** target site fungicide, such as **Zampro**, appears to be less effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist, or certified crop advisor for further investigation.

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## Application Instructions

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Apply rates of **Zampro** as instructed in **Table 2. Zampro® fungicide Crop-specific Requirements**. Apply **Zampro** with ground sprayer, aerial equipment or through sprinkler or drip irrigation equipment. Check equipment frequently for calibration.

Under low-level disease conditions, use the minimum application rates; use maximum application rates and shortened spray schedules for severe or threatening disease conditions. Maximum benefit of **Zampro** requires thorough coverage.

## Cleaning Spray Equipment

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with potential to injure crops was used before **Zampro**.

## Ground Application

Apply **Zampro** in sufficient water to ensure thorough coverage of foliage, blooms, and fruit. Thorough coverage is required for optimum disease control. Unless otherwise specified in this label, use no less than 20 gallons of spray solution per acre.

## Instructions for Directed or Banded Crop Sprays

The application rates shown in **Table 1. Zampro® fungicide Restrictions Overview** and **Table 2. Zampro® fungicide Crop-specific Requirements** pertain to both aerial and ground (broadcast) methods of application. **Zampro** may also be applied as a directed or banded spray over the rows or plant beds, with alleys or row middles left unsprayed. For such uses, reduce the rate of **Zampro** in proportion to the area sprayed. Make this adjustment to prevent applying the product at use rates higher than permitted on this label.

The following formula may be used to determine the broadcast-equivalent rate for directed or banded sprays:

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

**Example:** A directed spray application will be made to 45-inch plant beds separated by 15 inches of unsprayed row middles.

$$\begin{array}{rcl} 45 \text{ inches} & & 15 \text{ inches} & & 60 \text{ inches} \\ \text{sprayed bed width} & + & \text{unsprayed row} & = & \text{total row} \\ & & \text{middles} & & \text{width} \end{array}$$

Calculations for the appropriate equivalent rate of product to use in this situation based on a label broadcast rate of 12 fl ozs/acre are:

$$\frac{45 \text{ inches}}{60 \text{ inches}} \times \frac{12 \text{ fl ozs}}{\text{treated acre}} = \frac{9 \text{ fl ozs}}{\text{field acre}} \text{ Zampro}^{\text{®}} \text{ fungicide}$$

## Aerial Application

Use no less than 5 gallons of spray solution per acre to ensure thorough coverage of plant foliage. **DO NOT** apply when conditions favor drift from target area. Because complete coverage is important for effective disease control, aerial application may result in reduced control because of lack of canopy penetration and coverage.

## Spray Drift Management

**DO NOT** spray when conditions favor drift beyond area intended for application. Conditions that may contribute to drift include thermal inversion, wind speed and direction, spray nozzle/pressure combinations, spray droplet size, temperature/humidity, etc. Contact your state extension agent for spray drift prevention guidelines in your area. All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers. Avoiding spray drift at the application site is the responsibility of the applicator.

## Aerial Application Methods and Equipment

The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

**DO NOT** apply under circumstances where possible drift to unprotected persons, to food, forage, or other plantings that might be damaged, or crops thereof rendered unfit for sale, use, or consumption can occur.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements **DO NOT** apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the fixed wingspan or 90% of rotor-blade diameter.
2. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the aerial drift reduction advisory information.

## Spray Drift Advisories

The applicator is also 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. When applying aurally to crops, do not release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

## 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

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

## Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. bodies of water or nontarget crops) is minimal and when wind is blowing away from the sensitive areas.

## Directions For Use Through Sprinkler or Drip Irrigation Systems

### Sprayer Preparation

Chemical tank and injector system should be thoroughly cleaned. Flush system with clean water.

### Application Instructions

Apply **Zampro® fungicide** at rates and timings as required in this label.

### Use Precautions for Sprinkler or Drip Irrigation Applications

- Apply **Zampro** only through sprinkler or drip irrigation 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.
- Add **Zampro** 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** exceed 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 sufficient time for all of the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Thorough coverage of foliage, crown or roots is required for good control. Maintain good agitation during the entire application period.
- Contact a state extension service specialist, equipment manufacturers or other experts for calibration questions.
- 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 that are 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 supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- **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.

## 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, 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 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.

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## Additives and Tank Mixing Information

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**Zampro® fungicide** can be tank mixed with most recommended fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives as specified in **Table 2. Zampro® fungicide Crop-specific Requirements**.

The use of additives or adjuvants may improve the performance of **Zampro**. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or crop injury may result from mixing **Zampro** with other products. Therefore, before using any tank mix (fungicides, insecticides, herbicides, liquid fertilizers, biological control products, adjuvants, and additives), test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application.

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, BASF recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

Consult a BASF representative or local agricultural authorities for more information concerning additives.

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## Mixing Instructions

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Fill the spray tank until it is approximately 1/2 full with clean water. Shake the **Zampro** container well; then slowly add **Zampro** to the spray tank while agitating. Agitation must be engaged before adding the product to obtain a complete and uniform mixture of **Zampro**.

Limit the amount of spray mixture prepared to that needed for immediate use.

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## Mixing Order

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Maintain constant agitation throughout mixing and application.

1. **Water** - Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
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 **Zampro**, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions)
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**

Make sure each component is thoroughly mixed and suspended before adding tank mix partners. See **Table 2. Zampro® fungicide Crop-specific Requirements** for more details.

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## Restrictions

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- **DO NOT** exceed the maximum annual use rate, the maximum rate per application, or the total number of applications of **Zampro® fungicide** per year as stated in **Table 2. Zampro® fungicide Crop-specific Requirements**. Preharvest Interval (PHI) restrictions are also included in this table.
- **DO NOT** use **Zampro** in greenhouse or transplant production.
- **Tank Mixtures** - When tank mixing, observe the most restrictive tank mix limitations and precautions of all products used in the tank mixture.
- **Zampro** is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.
- **Crop Rotation Restrictions - After making the last Zampro application**, rotational crops may be planted at the following intervals:

### **Anytime**

*Brassica* leafy vegetables  
Bulb vegetables  
Cucurbit vegetables  
Fruiting vegetables  
Hops  
Leafy vegetables  
Potatoes  
Tomatoes

### **14 days**

Strawberry

### **30 days**

Barley  
Corn  
Oats  
Rice  
Root/tuber vegetables  
(such as carrot, radish, and sugar beet)  
Rye  
Sorghum  
Wheat

### **90 days**

All other crops

**Table 1. Zampro® fungicide Restrictions Overview\***

<b>Crop Group**</b>	<b>Maximum Product Rate per Application (fl ozs/A)</b>	<b>Maximum Number of Sequential Applications</b>	<b>Maximum Product Rate per Year (fl ozs/A)</b>	<b>Minimum Time from Application to Harvest (PHI) (days)</b>
<b>Brassica Leafy Vegetables Group</b>	14	2	42	0
<b>Bulb Vegetables Group</b>	14	2	42	0
<b>Cucurbit Vegetables Group</b>	14	2	42	0
<b>Fruiting Vegetables Group</b>	14	2	42	4
<b>Grapes</b>	14	2	56	14
<b>Hops</b>	14	2	40	7
<b>Leafy Vegetables Group</b>	14	2	42	0
<b>Potato</b>	14	2	42	4

\* See **Table 2. Zampro® fungicide Crop-specific Requirements** for complete directions.

\*\* For a complete list of crops within a crop group, see **Table 2. Zampro® fungicide Crop-specific Requirements**.

**Table 2. Zampro® fungicide Crop-specific Requirements**

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<p><b>Brassica Leafy Vegetables Group</b></p> <p><b>Head and Stem</b></p> <p>Broccoli Brussels sprouts Cabbage Cauliflower Cavolo broccolo Chinese broccoli (Gai lan) Chinese cabbage (Napa) Chinese mustard cabbage (Gai choy) Kohlrabi</p> <p><b>Leafy</b></p> <p>Broccoli raab (Rapini) Chinese cabbage (Bok choy) Collards Kale Mizuna Mustard greens Mustard spinach Rape greens</p>	<p>Downy mildew (<i>Peronospora parasitica</i>)</p>	<p>14</p>	<p>2</p>	<p>42</p>	<p>0</p>
<p><b>Application Directions.</b> Begin applications of <b>Zampro</b> before disease development and continue on a 7-day interval. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See <b>Additives and Tank Mixing Information</b> and <b>Mixing Order</b> sections.</p> <p><b>Resistance Management.</b> To limit the potential for development of resistance, <b>DO NOT</b> make more than three (3) applications of <b>Zampro</b> per year.</p> <p><b>DO NOT</b> make more than two (2) sequential applications of <b>Zampro</b> before alternating to a labeled fungicide with a different mode of action.</p>					

**Table 2. Zampro® fungicide Crop-specific Requirements** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Bulb Vegetables Group</b> Garlic Garlic, great-headed Leek Onion, dry bulb Onion, green Onion, Welsh Shallot	Downy mildew <i>(Peronospora destructor)</i>	14	2	42	0

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the shorter interval when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

**Table 2. Zampro® fungicide Crop-specific Requirements** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<p><b>Cucurbit Vegetables Group</b>  <b>includes all types and hybrids of:</b>                      Cantaloupe                      Chayote                      Chinese waxgourd                      Citron melon                      Cucumber                      Edible gourds                      Gherkin                      Muskmelon                      Pumpkin                      Summer squash                      Watermelon                      Winter squash                      Zucchini</p> <p><b>Momordica spp.</b>                      (includes:                      Balsam apple                      Balsam pear                      Bitter melon                      Chinese cucumber)</p>	<p>Downy mildew                      (<i>Pseudoperonospora cubensis</i>)</p> <p>Phytophthora blight or crown rot                      (<i>Phytophthora capsici</i>)</p>	14	2	42	0

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the shorter interval when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

**For control of Phytophthora blight or crown rot caused by *Phytophthora capsici*:** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the shorter interval when disease pressure is high. The addition of a spreading or penetrating adjuvant is recommended to improve disease control.

Apply **Zampro** at planting as a preventive drench treatment for control of the soilborne disease Phytophthora blight caused by *Phytophthora capsici*. Thorough coverage and wetting of the root zone and the crown and base of the plant is necessary for best control. Use enough solution to wet the root zone of the plant. **Zampro** may be applied at specified rates using sprinkler or drip irrigation (see **Use Precautions for Sprinkler or Drip Irrigation Applications** section). The level and consistency of *Phytophthora capsici* control from soil/drip line applications varies with the soil type, level of inoculum, irrigation volumes, environment, and other factors. See your local BASF representative for details on drip irrigation use in your area.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

**Table 2. Zampro® fungicide Crop-specific Requirements** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Fruiting Vegetables Group</b> Eggplant Ground cherry Pepino Pepper (all varieties) Tomatillo Tomato	Late blight ( <i>Phytophthora infestans</i> )  Phytophthora blight or crown rot ( <i>Phytophthora capsici</i> )	14	2	42	4

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the shorter interval when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

Spray volume should be proportional to the amount of plant tissue to be covered such that 100 gallons of spray per acre are used on mature plants.

**For control of Phytophthora blight or crown rot caused by *Phytophthora capsici*:** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the shorter interval when disease pressure is high. The addition of a spreading or penetrating adjuvant is recommended to improve disease control.

Apply **Zampro** at planting as a preventive drench treatment for control of the soilborne disease Phytophthora blight caused by *Phytophthora capsici*. Thorough coverage and wetting of the root zone and the crown and base of the plant is necessary for best control. Use enough solution to wet the root zone of the plant. **Zampro** may be applied at specified rates using sprinkler or drip irrigation (see **Use Precautions for Sprinkler or Drip Irrigation Applications** section). The level and consistency of *Phytophthora capsici* control from soil/drip line applications varies with the soil type, level of inoculum, irrigation volumes, environment, and other factors. See your local BASF representative for details on drip irrigation use in your area.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Grapes</b>	Downy mildew ( <i>Plasmopara viticola</i> )	11 to 14	2	56	14

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 7-day to 10-day interval. Use the higher rate and shorter interval when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

**Table 2. Zampro® fungicide Crop-specific Requirements** *(continued)*

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<b>Hops</b>	Downy mildew ( <i>Pseudoperonospora humuli</i> )	11 to 14	2	40	7

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 10-day interval. Use the higher rate when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.



**Table 2. Zampro® fungicide Crop-specific Requirements** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
<p><b>Leafy Vegetables Group (except Brassica Vegetables)</b></p> <p>Amaranth                      Arugula                      Cardoon                      Celery                      Celery, Chinese                      Celtuce                      Chervil                      Chrysanthemum, edible-leaved                      Chrysanthemum, garland                      Corn salad                      Cress, garden                      Cress, upland                      Dandelion                      Dock (Sorrel)                      Endive (Escarole)                      Fennel, Florence (Finocchio)                      Lettuce, head                      Lettuce, leaf                      Orache                      Parsley                      Purslane, garden                      Purslane, winter                      Radicchio (Red chicory)                      Rhubarb                      Spinach                      Spinach, New Zealand                      Spinach, vine                      Swiss chard</p>	<p>Downy mildew (<i>Bremia lactucea</i>)</p>	<p>14</p>	<p>2</p>	<p>42</p>	<p>0</p>

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 7-day interval. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections.

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

**Table 2. Zampro® fungicide Crop-specific Requirements** (continued)

Crop	Target Disease	Product Use Rate per Application (fl ozs/A)	Maximum Number of Sequential Applications	Maximum Product Rate per Year (fl ozs/A)	Minimum Time from Application to Harvest (PHI) (days)
Potato	Late blight ( <i>Phytophthora infestans</i> )	11 to 14	2	42	4

**Application Directions.** Begin applications of **Zampro** before disease development and continue on a 5-day to 7-day interval. Use the higher rate and shorter interval when disease pressure is high. The addition of a spreading/penetrating adjuvant is recommended to improve disease control performance. See **Additives and Tank Mixing Information** and **Mixing Order** sections. Consult local late blight advisory system recommendations to determine the predicted levels of disease pressure and recommended spray interval. Apply spray to obtain thorough and complete plant coverage.

**May be applied after vine kill.**

**Resistance Management.** To limit the potential for development of resistance, **DO NOT** make more than three (3) applications of **Zampro** per year.

**DO NOT** make more than two (2) sequential applications of **Zampro** before alternating to a labeled fungicide with a different mode of action.

## 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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