Supplemental Label

Vivando® Fungicide

For use on pome fruit to control powdery mildew

This supplemental label expires December 31, 2017 and must not be used or distributed after this date.

Active Ingredient*: metrafenone: (3-bromo-6-methoxy-2-methylphenyl)(2,3,4-trimethoxy-6-methylphenyl)methanone .................................. 25.20%
Other Ingredients: ............................................................................. 74.80%
Total: .................................................................................................. 100.00%
*This product contains 2.5 lbs active ingredient per gallon

EPA Reg. No. 7969-284

Directions For Use

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Vivando® fungicide container label, EPA Reg. No. 7969-284, must be in possession of the user at the time of application.
- Read the label affixed to the container for Vivando before applying.
- Use of Vivando according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Vivando.

Application Instructions

Refer to the Vivando® fungicide Crop-specific Requirements table on this label for specific application rates and application intervals for pome fruit. Vivando can be applied with ground sprayer, hand-held sprayer or aerial equipment. DO NOT apply Vivando by chemigation. Refer to the Vivando container label for additional instructions and restrictions.

Aerial Application

Aerial application can be made to pome fruit where applications are not possible using ground equipment. 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. For aerial applications to pome fruit, DO NOT use less than 10 gallons of spray solution per acre. Thorough coverage is required for optimum disease control. The reduced spray volumes used in aerial applications may result in physical incompatibility, reduced disease control, or crop injury.

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We create chemistry
from Vivando® fungicide applications, particularly when tank mixed with other products. Therefore, before making aerial applications test the spray on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application.

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.

DO NOT release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety or special weather conditions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

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.

Information on Droplet Size
The most effective way to reduce drift potential is to apply large droplets. Use the largest droplet size consistent with acceptable efficacy. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see Wind; Temperature and Humidity; and Temperature Inversions).

Controlling droplet size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - DO NOT exceed the nozzle manufacturer’s recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice unless inconsistent with product efficacy. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Wind
DO NOT apply at wind speeds greater than 15 mph. Drift potential is lowest when wind speed does not exceed 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided when wind speed is below 2 mph due to variable wind direction and high inversion potential. Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity
Low humidity and high temperatures increase the evaporation of spray droplets and, therefore, the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures. When making applications in low relative humidity, set up equipment to produce larger droplets in order to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions
Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light, variable winds common during inversions.
Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

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

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**Restrictions and Limitations**

- DO NOT exceed the maximum product rate (fl oz/A) per year, the maximum rate per application, or the total number of applications of Vivando per year as stated in the Vivando fungicide Crop-specific Requirements table on this label. Preharvest interval (PHI) restrictions are also included in these tables.
- Restricted-entry Interval - DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.
- DO NOT apply by chemigation.
- Plantback Restrictions – Crops with registered uses may be replanted at any time. All other crops grown for food or feed may be planted after 365 days.

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**Additives and General Tank Mixing Information**

Vivando fungicide can be tank mixed with most recommended fungicides, insecticides, liquid fertilizers, biological control products, adjuvants, and additives as specified in the Vivando fungicide Crop-specific Requirements table on this label for pome fruit.

Under some conditions, the use of additives or adjuvants may improve the performance of Vivando. However, all varieties and cultivars have not been tested with all 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 Vivando with other products. Therefore, before using any tank mix, 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.

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

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**Mixing Order**

Make sure that each component is thoroughly mixed and suspended before adding tank mix partners. Maintain constant agitation during application. Refer to the Vivando fungicide Crop-specific Requirements table for additional details on pome fruit. Refer to the Vivando container label for additional mixing instructions.
### Vivando® fungicide Crop-specific Requirements

<table>
<thead>
<tr>
<th>Crop</th>
<th>Target Disease</th>
<th>Product Use Rate per Application (fl ozs/A)</th>
<th>Maximum Number of Applications per Year</th>
<th>Maximum Product Rate per Year (fl ozs/A)</th>
<th>Minimum Time from Application to Harvest (PHI) (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pome fruit group</td>
<td>Podosphaera spp.</td>
<td>15.4 (0.30 lb ai)</td>
<td>3</td>
<td>46.2 (0.9 lb ai)</td>
<td>7</td>
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<tr>
<td>Apple</td>
<td></td>
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<td></td>
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<tr>
<td>Asian pear</td>
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<tr>
<td>Azarole</td>
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<td>Crabapple</td>
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<td>Loquat</td>
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<td>Mayhaw</td>
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<tr>
<td>Medlar</td>
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<td>Pear</td>
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<td>Quince</td>
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<tr>
<td>Quince, Chinese Quince, Japanese Tejocote</td>
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</tbody>
</table>

**Application Directions.** For control of powdery mildew, begin Vivando applications at bud break targeting rapidly expanding tissues, using 15.4 fl ozs/A and continue on a 7 to 14 day interval.

Use the shorter interval when disease pressure is high.

**DO NOT** apply at rates higher than 15.4 fl ozs product. **DO NOT** apply more than 46.2 fl ozs (0.9 lb ai) per acre per year. The minimum interval between sprays is 7 days.

**DO NOT** mix Vivando with horticultural oils when making applications to crops in the pome fruit group.

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

**DO NOT** make more than two (2) sequential Vivando applications 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.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use, subject to the inherent risks, referred to above.

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