

### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

January 13, 2020

Ricky Kyaw Regulatory Product Manager Syngenta Crop Protection, LLC PO Box 18300 Greensboro, NC 27419

Subject: Registration Review Label Mitigation for Fludioxonil and Mefenoxam Product Name: Vibrance Quattro EPA Registration Number: 100-1526 Application Date: 2/1/2019 Decision Number: 554966; 554967

Dear Mr. Kyaw:

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 Fludioxonil and Mefenoxam Interim Decisions, 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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If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at <u>Stanton.Darius@epa.gov</u>.

Sincerely,

2 ~ 2

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

Enclosure

(MASTER)

DIFENOCONAZOLE	GROUP	3	FUNGICIDE
MEFENOXAM	GROUP	4	FUNGICIDE
SEDAXANE	GROUP	7	FUNGICIDE
FLUDIOXONIL	GROUP	12	FUNGICIDE

### Vibrance® Quattro

### Fungicide

A seed treatment product for protection against damage from listed fungal diseases of cereals.

Active Ingredients:	
Difenoconazole <sup>1</sup> :	
Mefenoxam <sup>2</sup> :	0.87%
Fludioxonil <sup>3</sup> :	0.72%
Sedaxane <sup>4</sup> :	
Other Ingredients:	93.49%
Total:	100.00%

<sup>1</sup>CAS No. 119446-68-3 <sup>2</sup>CAS Nos. 70630-17-0 and 69516-34-3 <sup>3</sup>CAS No. 131341-86-1 <sup>4</sup>CAS No. 874967-67-6

Vibrance Quattro contains 0.31 lb difenoconazole, 0.08 lb mefenoxam, 0.06 lb fludioxonil, and 0.13 lb sedaxane per gallon

### KEEP OUT OF REACH OF CHILDREN.

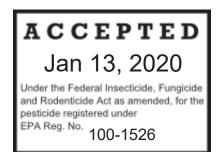
## CAUTION

See additional precautionary statements and directions for use in booklet [on label].

EPA Reg. No. 100-1526

EPA Est. No. XXXXX

Net Contents



### FIRST AID

Have the product container with you when calling a poison control center or doctor, or going for treatment.

### HOT LINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident),

Call 1-800-888-8372

### PRECAUTIONARY STATEMENTS

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### Personal Protective Equipment (PPE)

### Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or Viton® ≥ 14 mils

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

### **Engineering Control Statements**

When handlers use closed systems 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 pesticides get 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**

This product is toxic to fish and aquatic invertebrates. Exposed treated seed may be hazardous to wildlife. Do not contaminate water when disposing of equipment wash water or rinsates.

### **Physical or Chemical Hazards**

Do not use with or store near any oxidizing agents.

### Groundwater Advisory

This pesticide product contains the active ingredient, mefenoxam, which is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of mefenoxam in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

### 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.

Do not use for at-plant applications (e.g. hopper box, planter box, etc.).

Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigor and poor quality, except for the purpose of curative control of existing disease pests, may result in reduced germination and/or reduction of seed and seedling vigor. Treat using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of seed before committing the total seed lot to a selected seed treatment. Due to seed quality and seed storage conditions beyond the control of Syngenta, no claims are made to guarantee the germination of carry-over treated seed.

Maximum usage when applying metalaxyl- and mefenoxam- containing products to the same crop within the same season: Do not apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.

### FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR DISEASE CONTROL, AND/OR ILLEGAL RESIDUES.

### **PRODUCT INFORMATION**

Vibrance Quattro seed treatment fungicide is a broad-spectrum fungicide that consists of four fungicide active ingredients (difenoconazole, mefenoxam, fludioxonil, and sedaxane). The active ingredients have different modes of action against fungal pathogens, and this seed treatment is recommended for control of many important cereal plant diseases. Difenoconazole provides protection against several seed, seedling and certain foliar disease including bunts and smuts. Mefenoxam protects against damping-off caused by *Pythium*. Fludioxonil provides protection against certain soil-borne and seed-borne diseases and is active against *Fusarium*, *Rhizoctonia*, and weakly pathogenic fungi such as *Aspergillus* and *Penicillium*. Sedaxane protects against *Rhizoctonia and loose smuts* (Ustilago).

Vibrance Quattro may be applied in tank mixes, or sequentially with other EPAregistered seed treatment pesticide products such as Cruiser® brand insecticides and Mertect 340F®. If using Vibrance Quattro in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label(s). Do not exceed any label dosage and the most restrictive label precautions and limitations must be followed. This product must not be mixed with any product that prohibits such mixing.

All applications must be made according to the use directions that follow. Apply Vibrance Quattro as a seed treatment following the guidelines specified in the Directions for Use section of this label.

### **Mixing Procedures**

**Important:** Always re-circulate Vibrance Quattro thoroughly before using.

Apply Vibrance Quattro as a water-based slurry using seed treatment application equipment that will provide uniform coverage on the seed surface. Consult the manufacturer of the application equipment being used for calibration and operation procedures.

Vibrance Quattro mixes easily with water and other water-based seed treatments manufactured by Syngenta. When mixing with products from other manufacturers, the compatibility should be tested prior to use by conducting a jar test: mix all intended seed treatments with the appropriate amount of water in a clear glass container. Mix well and allow mixture to sit for one hour. Remix and observe for incompatibility.

Mixing Vibrance Quattro with tank-mix partners: Add ½ of the required water to the mix tank and turn on the agitation. Mechanical agitation is preferred. If using wettable powders, add them first to clean water allowing them to completely disperse prior to adding Vibrance Quattro or other products. Allow each tank-mix partner to completely disperse before adding the next product. Add the remaining amount of water and agitate. Maintain agitation until the entire slurry mixture has been used. Allow seed to dry prior to bagging.

Allow seed to dry before bagging.

Follow planter manufacturer specifications for use of talc or other hopper box additives at planting. Seed must be completely dry before adding to planter.

Vibrance Quattro contains an EPA approved dye/colorant that imparts an unnatural color to the seed as required by the Federal Seed Act.

### SEED BAG LABEL REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with difenoconazole, mefenoxam, fludioxonil and sedaxane fungicides.
- Do not use for feed, food, or oil purposes.

- Ground Water Advisory:
  - Mefenoxam is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.
- Store away from feeds and foodstuffs.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading.
- Do not allow children, pets, or livestock to have access to treated seed.
- Dispose of all excess treated seed. Leftover treated seed may be doublesown around the headland or buried away from water sources in accordance with local requirements.
- Do not contaminate water bodies when disposing of planting equipment wash waters.
- Dispose of seed packaging in accordance with local requirements.
- Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in the ethanol by- products that are used in agronomic practice.
- Green wheat or triticale forage may not be grazed until 55 days after planting. All other crops may not be grazed until 30 days after planting.
- In the event of a crop failure or harvest of a crop grown from Vibrance Quattro treated seed, the field may be replanted immediately to canola, soybean, barley, oat, rye triticale and wheat, sweet corn, and chickpea. For any other crop, the minimum plant back interval is 30 days from the date Vibrance Quattro treated seed was planted.

### **Resistance Management**

DIFENOCONAZOLE	GROUP	3	FUNGICIDE
MEFENOXAM	GROUP	4	FUNGICIDE
SEDAXANE	GROUP	7	FUNGICIDE
FLUDIOXONIL	GROUP	12	FUNGICIDE

For resistance management, please note that Vibrance Quattro contains Group 3/difenoconazole, Group 4/mefenoxam, Group 7/sedaxane, and Group 12/fludioxonil fungicides. Any fungal population may contain individuals naturally resistant to Vibrance Quattro and other Group 3, Group 4, Group 7, and Group 12 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

Difenoconazole belongs to the triazole class of chemistry and is a demethylation inhibitor of sterol biosynthesis (DMI) which disrupts membrane synthesis of the fungal cell. Mefenoxam belongs to the phenylamide class of chemistry which interferes with fungal RNA synthesis. Sedaxane is a succinate dehydrogenase inhibitor (SDHI) and belongs to the carboxamide class of chemistry which disrupts cellular respiration and energy generation. Fludioxonil belongs to the phenylpyrrole class of chemistry which interferes with osmotic signal transduction.

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

- Rotate the use of Vibrance Quattro or other Group 3, Group 4, Group 7 or Group 12 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicide 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 IPM recommendations for specific crop and pathogens.
- For further information or to report suspected resistance contact Syngenta at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

Syngenta encourages responsible product stewardship to ensure effective long term control of the fungal diseases on this label.

### **CROP USE DIRECTIONS**

Crop	Protection Against the Following Diseases	Rate (fl oz/100 lb seed)
Barley	General Seed Rots <sup>1</sup> : Seedling Blight, Root Rot, Damping-off caused by Seed- and soil-borne <i>Fusarium</i> or Rhicoztonia Seedling Blight, Root Rot, Damping-off caused by soil-borne <i>Pythium</i> Seed-borne <i>Septoria</i> Covered Smut False Loose Smut True Loose Smut	5.0

Crop	Diseases Suppressed <sup>2</sup>	Rate (fl oz/100 lb seed)
Barley	Common Root Rot (Cochliobolus)	5.0
	Fusarium Crown and Foot Rot	
	Take-All	

Сгор	Protection Against the Following Diseases	Rate (fl oz/100 lb seed)
Oats	General Seed Rots <sup>1</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> or <i>Rhizoctonia</i> Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> Covered Smut Loose Smut	5.0

Crop	Diseases Suppressed <sup>2</sup>	Rate (fl oz/100 lb seed)
Oats	Common Root Rot (Cochliobolus)	5.0

Crop	Protection Against the Following Diseases	Rate (fl oz/100 lb seed)
Rye	General Seed Rots <sup>1</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> or <i>Rhizoctonia</i> Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> Seed-borne <i>Septoria</i> Common Bunt <sup>3</sup> Dwarf Bunt <sup>3</sup>	5.0

Crop	Diseases Suppressed <sup>2</sup>	Rate (fl oz/100 lb seed)
Rye	Common Root Rot ( <i>Cochliobolus</i> ) Fusarium Crown and Foot Rot	5.0
	Take-All	

Crop	Protection Against the Following Diseases	Rate (fl oz/100 lb seed)
Winter Wheat and Triticale	General Seed Rots <sup>1</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> or <i>Rhizoctonia</i> Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> Seed-borne <i>Septoria</i> <i>Septoria</i> Leaf Blotch <sup>4</sup> Common Bunt <sup>3</sup>	5.0

Dwarf Bunt <sup>3</sup>
Karnal Bunt
Flag Smut
Fusarium Seed Scab
Loose Smut
Pythium Damping Off

Crop	Diseases Supressed <sup>2</sup>	Rate (fl oz/100 lb seed)
Winter Wheat	Common Root Rot ( <i>Cochliobolus</i> ) <i>Fusarium</i> Crown and Foot or Root Rot Take-All	5.0

Сгор	Protection Against the Following Diseases	Rate (fl oz/100 lb seed)
Spring Wheat	General Seed Rots <sup>1</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> or <i>Rhizoctonia</i> Seed-borne <i>Septoria</i> Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> Common Bunt <sup>3</sup> <i>Fusarium</i> Seed Scab Karnal Bunt Loose Smut <i>Pythium</i> Damping Off	5.0

Crop	Diseases Supressed <sup>2</sup>	Rate (fl oz/100 lb seed)
Spring Wheat	Common Root Rot ( <i>Cochliobolus</i> ) <i>Fusarium</i> Crown and Foot and Root Rot Take-All	5.0

<sup>1</sup>Active on pathogens that cause general seed rots. This includes those caused by *Fusarium, Pythium,* Rhizoctonia, Penicillium and Aspergillus.

<sup>2</sup>Suppression means consistent protection at a level which is not optimal but is still of commercial benefit. <sup>3</sup>Provides protection against both seed- and soil-borne bunts (common, dwarf). <sup>4</sup>Early season foliar disease protection for first 4 weeks after planting. For full season protection, apply a

foliar fungicide according to label directions.

### STORAGE AND DISPOSAL

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

### Pesticide Storage

Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

### Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### Container Handling [less than or equal to 5 gallons]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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 beings to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

### Container Handling [greater than 5 gallons – mini-bulk]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse 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 ties. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

### Container Handling [greater than 5 gallons - bulk]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump

for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

### CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

Vibrance®, Cruiser®, the ALLIANCE FRAME the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

Viton® trademark of E. I. du Pont de Nemours and Company

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For non-emergency (e.g., current product information) call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for: Syngenta Crop Protection, LLC P.O. Box 18300 Greensboro, North Carolina 27419-8300

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