

GROUP	3	4	7	12	FUNGICIDES
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VIBRANCE® QUATTRO

SEED TREATMENT FUNGICIDE

AGRICULTURAL

SUSPENSION

A seed treatment for the control or suppression of certain seed- and soil-borne diseases of cereal crops.

ACTIVE INGREDIENT:

Difenoconazole	36.8 g/L
Sedaxane.....	15.4 g/L
Metalaxyl-M (and S-isomer)	9.2 g/L
Fludioxonil.....	7.6 g/L

Contains 1,2-benzisothiazolin-3-one at 0.019%, 5-chloro-2-methyl-4-isothiazolin-3-one at 0.0011% and 2-methyl-4-isothiazolin-3-one at 0.00037% as preservatives.

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN**

POTENTIAL SKIN SENSITIZER

REGISTRATION NUMBER: **31408**
PEST CONTROL PRODUCTS ACT

Syngenta Canada Inc.
140 Research Lane, Research Park
Guelph, Ontario
N1G 4Z3
Telephone: 1-877-964-3682

Special Use Restrictions:

All seed treated with this product must be conspicuously coloured at the time of treatment.

No open transfer is permitted for commercial seed treatment of barley, wheat, oats, rye and triticale.

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

FIRST AID

IF POISONING IS SUSPECTED, IMMEDIATELY contact a physician or a poison control centre. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

If swallowed, call a poison control centre or doctor **IMMEDIATELY** for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

If in eyes, hold eyes open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

If on skin or clothing, take off contaminated clothing. Rinse skin **IMMEDIATELY** with plenty of water for 15 –20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

TOXICOLOGICAL INFORMATION

Treat symptomatically. Contains petroleum distillate – vomiting may cause aspiration pneumonia.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS. Potential skin sensitizer. Wash hands and face after handling and before eating, using tobacco (including smoking), applying cosmetics, or using the toilet. Avoid contamination of feed and foodstuffs.

VIBRANCE® QUATTRO is for use on-farm on barley, wheat, oats, rye, and triticale. This product can also be applied by commercial seed treaters (facilities and mobile treaters) using closed system transfer. Closed transfer includes closed mixing, loading, calibrating and closed treatment equipment.

Treat seed in a well-ventilated area.

For commercial seed treatment:

Cleaners must wear chemical-resistant coveralls over a long-sleeved shirt and long pants,

chemical-resistant gloves, work boots and socks. Treaters, baggers, sewers, stackers, forklift operators and others must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, work boots and socks. Wear a suitable dust mask when bagging or sewing bags of treated seed or when transferring seed to a storage bin. For good hygiene practice, it is also recommended to wear a NIOSH approved dust mask during all other job activities.

For on-farm treating and planting:

When treating seeds, handling and planting treated seed, workers should wear cotton coveralls or long sleeved shirt and long pants, chemical-resistant gloves, and work boots. Wear a suitable dust mask when transferring treated seed to a storage bin. For good hygiene practice, it is also recommended to wear a NIOSH approved dust mask during all other job activities.

NOTE: In case of accident, take the product label to the emergency facility or physician.

If this pest control product is to be used on a commodity that may be exported to other countries in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

ENVIRONMENTAL HAZARDS

TOXIC to aquatic organisms.

Treated seed is toxic to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

USE RESTRICTIONS

1. Treated seed must not be used for food, feed or oil processing.
2. Store away from food and feed.
3. For seed treated with VIBRANCE QUATTRO, do not graze or feed livestock on treated areas for 45 days after planting.
4. Do not plant any crop other than cereals within 60 days to fields in which seeds treated with VIBRANCE QUATTRO were planted.
5. All bags containing treated seed for sale or use in Canada must be labelled or tagged as follows: **“This seed has been treated with difenoconazole, metalaxyl-M (and S-isomer), sedaxane and fludioxonil fungicides. When handling and planting treated seed, workers should wear cotton coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, and work boots. Wear a suitable dust mask when transferring seed to a storage bin. Do not graze or feed livestock on seeded area for 45 days after planting. Do not use for food, feed or oil processing. Store away from food and feed.”**

DECONTAMINATION AND DISPOSAL

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in

case of a spill, and for clean-up of spills.

CONTAINER DISPOSAL:**For recyclable containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For Returnable Containers:

Do not reuse this container for any purpose. For disposal, the empty container may be returned to the point of purchase (distributor/dealer).

For Refillable Containers:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
CALL 1-800-327-8633 (FASTMED)***

GENERAL INFORMATION

VIBRANCE QUATTRO is a combination of the fungicides difenoconazole, metalaxyl-M and S-isomer, sedaxane and fludioxonil, which control or suppress certain seed- and/or soil-borne diseases of cereal crops as listed below.

Note: Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigour and poor quality, may result in reduced germination and/or reduction of seed and seedling vigour. Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of the 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 Canada Inc., no claims are made to guarantee the germination of carry-over seed.

Note: Experience has shown that strains of fungi resistant to metalaxyl-M (and isomer) and Fludioxonil may develop. Failure to control the disease will result in crop damage and/or yield losses. Since the occurrence of the resistance cannot be foreseen, Syngenta Canada Inc. accepts no responsibility for any loss of, or damage to, crops resulting from the failure of VIBRANCE QUATTRO to control the resistant fungus strains. If disease appears in a treated field, consult the government extension specialist immediately.

DIRECTIONS FOR USE

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

VIBRANCE QUATTRO may be applied through commercial or on-farm equipment. Apply VIBRANCE QUATTRO utilizing seed treatment equipment that provides uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of disease control. Depending on seed size, VIBRANCE QUATTRO may be applied as a ready-to-apply application or water may be added to form slurry for more uniform coverage. Follow the manufacturer's application instructions for the seed treatment equipment being used. Allow the seed to dry before bagging or storing into bulk containers. Depending on planting equipment, seed treated with VIBRANCE QUATTRO may not flow through planting equipment at the same rate as untreated seed. Recalibrate this equipment before planting treated seed.

Ideal storage temperature is above freezing and below 30°C. Repeated freeze-thawing of VIBRANCE QUATTRO will not affect the physical integrity of the product. If the product should freeze, bring the product back to room temperature and ensure the contents are mixed well prior to application.

This product contains a pigment that will adequately colour the treated seed. However, users are responsible for ensuring that the treated seed, when dried and ready for bagging, has an unnatural colour. If the pigment contained in the formulation does not colour the seed adequately, additional colourant must be added to the mixture while treating the seed. Follow instructions on the colourant package for mixing. Regulations pertaining to colouration of treated seed enforced under the "Seeds Act" must be strictly adhered to when using this product.

USE RATES

Apply 325 mL of VIBRANCE QUATTRO per 100 kg of seed to the crops listed below. At this rate, VIBRANCE QUATTRO delivers 12 g of difenoconazole, 5 g of sedaxane, 3 g of metalaxyl-M (and S-isomer) and 2.5 g of fludioxonil per 100 kg of seed.

CROP GROUP 15 (CEREALS)	
CROPS	Barley
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Covered smut (<i>Ustilago hordei</i>) False loose smut (<i>Ustilago nigra</i>) True loose smut (<i>Ustilago nuda</i>)
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) <i>Fusarium</i> crown and foot rot (<i>Fusarium</i> spp.) Seed-borne <i>Cochliobolus sativus</i> Take-all (<i>Gaeumannomyces graminis</i>)
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit.
CROPS	Oats
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Covered smut (<i>Ustilago hordei</i>) Loose smut (<i>Ustilago avenae</i>)
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) Seed-borne <i>Cochliobolus sativus</i>
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit.
CROPS	Rye
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Common bunt (<i>Tilletia tritici</i>) ² Dwarf bunt (<i>Tilletia controversa</i>) ²
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) <i>Fusarium</i> crown and foot rot (<i>Fusarium</i> spp.) Seed-borne <i>Cochliobolus sativus</i> Take-all (<i>Gaeumannomyces graminis</i>)
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit. ² Controls both seed- and soil-borne bunts (common, dwarf).

CROPS	Triticale
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Loose smut (<i>Ustilago tritici</i>)
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) <i>Fusarium</i> crown and foot rot (<i>Fusarium</i> spp.) Seed-borne <i>Cochliobolus sativus</i> Take-all (<i>Gaeumannomyces graminis</i>)
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit.
CROPS	Winter Wheat
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Common bunt (<i>Tilletia tritici</i>) ² Dwarf bunt (<i>Tilletia controversa</i>) ² Loose smut (<i>Ustilago tritici</i>)
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) <i>Fusarium</i> crown and foot rot (<i>Fusarium</i> spp.) Seed-borne <i>Cochliobolus sativus</i> Take-all (<i>Gaeumannomyces graminis</i>)
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit. ² Controls both seed- and soil-borne bunts (common, dwarf).
CROPS	Spring Wheat
DISEASES CONTROLLED	Seed rots caused by <i>Fusarium</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Penicillium</i> and <i>Aspergillus</i> spp. Seedling blight, root rot, and damping-off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling blight, root rot, and damping-off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Alternaria</i> (<i>Alternaria</i> spp.) Common bunt (<i>Tilletia tritici</i>) ² Loose smut (<i>Ustilago tritici</i>)
DISEASES SUPPRESSED¹	Common root rot (<i>Cochliobolus sativus</i>) <i>Fusarium</i> crown and foot rot (<i>Fusarium</i> spp.) Seed-borne <i>Cochliobolus sativus</i> Take-all (<i>Gaeumannomyces graminis</i>)
RATE	325 mL/100 kg seed
NOTES	¹ Suppression means consistent control at a level that is not optimal but is still of commercial benefit. ² Controls both seed- and soil-borne common bunt.

TANK MIXES

For protection from various insects on registered crops, VIBRANCE QUATTRO may be mixed with CRUISER® 5FS Seed Treatment. This tank-mix option is only valid for those crops common to the registered labels of VIBRANCE QUATTRO and CRUISER 5FS Seed Treatment Insecticide. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that VIBRANCE QUATTRO contains Group 3, 4, 7 and 12 fungicides. Any fungal population may contain individuals naturally resistant to VIBRANCE QUATTRO and other Group 3, 4, 7 or 12 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay fungicide resistance:

Where possible, rotate the use of VIBRANCE QUATTRO or other Group 3, 4, 7 and 12 fungicides with different groups that control the same pathogens.

Fungicide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.

Monitor treated fungal populations for signs of resistance development. Notify Syngenta Canada Inc. if reduced sensitivity of the pathogen to VIBRANCE QUATTRO is suspected.

If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide product with a different target site of action, if available.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information and to report suspected resistance, contact Syngenta Canada Inc. at 1-877-SYNGENTA (1-877-964-3682) or at www.syngenta.ca.

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