

**VIBRANCE QUATTRO**

Version 2.0      Revision Date: 01/25/2021      SDS Number: S00021919456      This version replaces all previous versions.

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**SECTION 1. IDENTIFICATION**

Product name : VIBRANCE QUATTRO  
Design code : A20673A

Product Registration number : 31408

Other means of identification : No data available

**Manufacturer or supplier's details**

Company name of supplier : Syngenta Canada Inc.  
Address : 140 Research Lane, Research Park  
Guelph ON N1G 4Z3  
Canada  
Telephone : 1-877-SYNGENTA (1-877-964-3682)  
Telefax : 1-519-823-0504  
Emergency telephone number : 1-800-327-8633 (FAST MED)

**Recommended use of the chemical and restrictions on use**

Recommended use : Seed treatment

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**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the Hazardous Products Regulations**

Skin sensitisation : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste dis-

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posal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Components

Chemical name	CAS-No.	Concentration (% w/w)
(9Z,12Z,15Z)-octadeca-9,12,15-trienoic acid	8001-26-1	$\geq 10 - < 30$ *
propane-1,2-diol	57-55-6	$\geq 10 - < 30$ *
difenoconazole	119446-68-3	$\geq 1 - < 5$ *
sedaxane	874967-67-6	$\geq 1 - < 5$ *
metalaxyl-M (ISO)	70630-17-0	$\geq 0.1 - < 1$ *
fludioxonil (ISO)	131341-86-1	$\geq 0.1 - < 1$ *
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9	$\geq 0.0015 - < 0.1$ *

\* Actual concentration or concentration range is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.  
Do NOT induce vomiting.
- Most important symptoms and effects, both acute and delayed : Nonspecific  
No symptoms known or expected.
- Notes to physician : There is no specific antidote available.  
Treat symptomatically.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or car-

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- bon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam  
or  
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire-fighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : No special protective measures against fire required.  
Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
For personal protection see section 8.
- Conditions for safe storage : No special storage conditions required.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Keep out of the reach of children.  
Keep away from food, drink and animal feedingstuffs.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis
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		(Form of exposure)	ters / Permissible concentration	
(9Z,12Z,15Z)-octadeca-9,12,15-trienoic acid	8001-26-1	TWAEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
propane-1,2-diol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m <sup>3</sup>	CA ON OEL
		TWA (aerosol)	10 mg/m <sup>3</sup>	CA ON OEL
difenoconazole	119446-68-3	TWA	5 mg/m <sup>3</sup>	Syngenta
sedaxane	874967-67-6	TWA	5 mg/m <sup>3</sup>	Syngenta
metalaxyl-M (ISO)	70630-17-0	TWA	5 mg/m <sup>3</sup>	Syngenta
fludioxonil (ISO)	131341-86-1	TWA	5 mg/m <sup>3</sup>	Syngenta
		TWA (Inhalable particulate matter)	1 mg/m <sup>3</sup>	ACGIH

**Engineering measures** : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.

Where necessary, seek additional occupational hygiene advice.

### Personal protective equipment

**Respiratory protection** : No personal respiratory protective equipment normally required.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Hand protection**

**Remarks** : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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Eye protection : No special protective equipment required.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Remove and wash contaminated clothing before re-use.  
Wear as appropriate:  
Impervious clothing

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : No data available

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Method: Pensky-Martens closed cup  
does not flash

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Density : 1.06 g/cm<sup>3</sup> (25 °C)

Solubility(ies)  
Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : 440 °C

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Decomposition temperature : No data available

Viscosity  
  Viscosity, dynamic : No data available  
  Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle size : No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : None reasonably foreseeable.  
Chemical stability : Stable under normal conditions.  
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.  
Conditions to avoid : No decomposition if used as directed.  
Incompatible materials : None known.  
Hazardous decomposition products : No hazardous decomposition products are known.

**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Ingestion  
Inhalation  
Skin contact  
Eye contact

**Acute toxicity****Product:**

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.58 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

**Components:****difenoconazole:**

Acute oral toxicity : LD50 (Rat, male and female): 1,453 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

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Acute inhalation toxicity : LC50 (Rat, male and female): > 3,300 mg/m<sup>3</sup>  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,010 mg/kg  
 Assessment: The substance or mixture has no acute dermal toxicity

### sedaxane:

Acute oral toxicity : LD50 (Rat, female): 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.244 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

### metalaxyl-M (ISO):

Acute oral toxicity : LD50 (Rat, male): 953 mg/kg  
 LD50 (Rat, female): 375 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.29 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: The substance or mixture has no acute inhalation toxicity  
 Remarks: Highest attainable concentration

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
 Assessment: The substance or mixture has no acute dermal toxicity

### fludioxonil (ISO):

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.6 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
 Assessment: The substance or mixture has no acute dermal toxicity

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity : Assessment: The component/mixture is toxic after single in-

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gestion.

Acute inhalation toxicity : Assessment: The component/mixture is highly toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is highly toxic after single contact with skin.

**Skin corrosion/irritation****Product:**

Species : Rabbit  
Result : No skin irritation

**Components:****difenoconazole:**

Species : Rabbit  
Result : No skin irritation

**sedaxane:**

Species : Rabbit  
Result : No skin irritation

**metalaxyl-M (ISO):**

Species : Rabbit  
Result : No skin irritation

**fludioxonil (ISO):**

Species : Rabbit  
Result : No skin irritation

**reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):**

Result : Corrosive after 1 to 4 hours of exposure

**Serious eye damage/eye irritation****Product:**

Species : Rabbit  
Result : No eye irritation

**Components:****difenoconazole:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 7 days



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**sedaxane:**

Species : Rabbit  
Result : No eye irritation

**metalaxyl-M (ISO):**

Species : Rabbit  
Result : Risk of serious damage to eyes.

**fludioxonil (ISO):**

Species : Rabbit  
Result : No eye irritation

**Respiratory or skin sensitisation****Product:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : May cause sensitisation by skin contact.

**Components:****difenoconazole:**

Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

**sedaxane:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : Not a skin sensitizer.

**metalaxyl-M (ISO):**

Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

**fludioxonil (ISO):**

Species : Guinea pig  
Result : Did not cause sensitisation on laboratory animals.

**reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):**

Result : The product is a skin sensitizer, sub-category 1A.

**Germ cell mutagenicity****Components:****difenoconazole:**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

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### **sedaxane:**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### **metalaxyl-M (ISO):**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### **fludioxonil (ISO):**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### **Carcinogenicity**

#### **Components:**

#### **difenoconazole:**

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen, In a two-year feeding study of mice, an oncogenic effect was seen in the livers of males and females., The observed tumors do not appear to be relevant for men.

#### **sedaxane:**

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen, At extremely high doses, numerically higher incidences of uterine, thyroid and liver tumors (male and/or female rats) and liver tumors (male mice) were within the range of normal background variation and thus considered unrelated to treatment. Some Regulatory Authorities have taken a more conservative position that these high-dose findings are treatment-related in rats and mice. The dose levels where these findings occur are not relevant to human exposure levels.

#### **metalaxyl-M (ISO):**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

#### **fludioxonil (ISO):**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

### **Reproductive toxicity**

#### **Components:**

#### **difenoconazole:**

Reproductive toxicity - Assessment : No toxicity to reproduction

#### **sedaxane:**

Reproductive toxicity - Assessment : No toxicity to reproduction

#### **metalaxyl-M (ISO):**

Reproductive toxicity - Assessment : No toxicity to reproduction

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### fludioxonil (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

### STOT - repeated exposure

#### Components:

### metalaxyl-M (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### Repeated dose toxicity

#### Components:

### difenoconazole:

Remarks : No adverse effect has been observed in chronic toxicity tests.

### sedaxane:

Remarks : No adverse effect has been observed in chronic toxicity tests.

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

### difenoconazole:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.1 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.77 mg/l  
Exposure time: 48 h

EC50 (Americamysis): 0.15 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Navicula pelliculosa (Freshwater diatom)): 0.091 mg/l  
Exposure time: 72 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.053 mg/l  
Exposure time: 72 h

ErC50 (Desmodesmus subspicatus (green algae)): 0.0876 mg/l  
Exposure time: 72 h

NOEC (Desmodesmus subspicatus (green algae)): 0.0086 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

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Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.0076 mg/l  
Exposure time: 34 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0056 mg/l  
Exposure time: 21 d

NOEC (Americamysis): 0.0023 mg/l  
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h

### sedaxane:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 0.62 mg/l  
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): 0.98 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.10 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 3 mg/l  
Exposure time: 96 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 1 mg/l  
End point: Growth rate  
Exposure time: 96 h

ErC50 (Lemna gibba (gibbous duckweed)): 6.5 mg/l  
Exposure time: 7 d

NOEC (Lemna gibba (gibbous duckweed)): 0.59 mg/l  
End point: Growth rate  
Exposure time: 7 d

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.165 mg/l  
Exposure time: 33 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.82 mg/l  
Exposure time: 21 d

### metalaxyl-M (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): > 100 mg/l  
Exposure time: 96 h

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 271 mg/l  
Exposure time: 96 h
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 19.7 mg/l  
End point: Growth rate  
Exposure time: 96 h
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 50 mg/l  
Exposure time: 28 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l  
Exposure time: 21 d
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h
- fludioxonil (ISO):**
- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l  
Exposure time: 96 h
- LC50 (Pimephales promelas (fathead minnow)): 0.7 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.4 mg/l  
Exposure time: 48 h
- EC50 (Americamysis): 0.27 mg/l  
Exposure time: 96 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 0.44 mg/l  
Exposure time: 96 h
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.132 mg/l  
End point: Growth rate  
Exposure time: 96 h
- ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l  
Exposure time: 96 h
- NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l  
End point: Growth rate  
Exposure time: 96 h
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.04 mg/l  
Exposure time: 28 d

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NOEC (Pimephales promelas (fathead minnow)): 0.018 mg/l  
Exposure time: 116 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.035 mg/l  
Exposure time: 21 d

NOEC (Americamysis): 0.018 mg/l  
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.22 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 0.1 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.048 mg/l  
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.0012 mg/l  
End point: Growth rate  
Exposure time: 72 h

ErC50 (Skeletonema costatum (marine diatom)): 0.0052 mg/l  
Exposure time: 48 h

NOEC (Skeletonema costatum (marine diatom)): 0.00064 mg/l  
End point: Growth rate  
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 100

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.098 mg/l  
Exposure time: 28 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia (water flea)): 0.004 mg/l  
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 10

### Persistence and degradability

#### Components:

#### **difenoconazole:**

Biodegradability : Result: Not readily biodegradable.

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Stability in water : Degradation half life: 1 d  
Remarks: Product is not persistent.

### **sedaxane:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: > 1 y  
Remarks: Persistent in water.

### **metalaxyl-M (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 22.4 - 47.5 d  
Remarks: Product is not persistent.

### **fludioxonil (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 450 - 700 d  
Remarks: Persistent in water.

### **reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):**

Biodegradability : Result: Readily biodegradable.

### **Bioaccumulative potential**

#### **Components:**

#### **difenoconazole:**

Bioaccumulation : Remarks: High bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 4.4 (25 °C)

#### **sedaxane:**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.3 (25 °C)

#### **metalaxyl-M (ISO):**

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 1.71 (25 °C)

#### **fludioxonil (ISO):**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

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**Mobility in soil****Components:****difenoconazole:**

Distribution among environmental compartments : Remarks: Low mobility in soil.  
Stability in soil : Dissipation time: 149 - 187 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

**sedaxane:**

Distribution among environmental compartments : Remarks: Low to medium mobility in soil.  
Stability in soil : Dissipation time: 83 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

**metalaxyl-M (ISO):**

Distribution among environmental compartments : Remarks: Metalaxyl has a range from low to very high mobility in soil depending on soil type.  
Stability in soil : Dissipation time: < 50 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

**fludioxonil (ISO):**

Distribution among environmental compartments : Remarks: immobile  
Stability in soil : Dissipation time: 14 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

**Other adverse effects****Components:****difenoconazole:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**sedaxane:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**metalaxyl-M (ISO):**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**fludioxonil (ISO):**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be



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very persistent and very bioaccumulating (vPvB).

### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Refer to the product label for specific disposal/recycling information  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Refer to the product label for specific disposal/recycling information  
Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(DIFENOCONAZOLE AND SEDAXANE)  
Class : 9  
Packing group : III  
Labels : 9

##### IATA-DGR

- UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(DIFENOCONAZOLE AND SEDAXANE)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Environmentally hazardous : yes

##### IMDG-Code

- UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(DIFENOCONAZOLE AND SEDAXANE)  
Class : 9  
Packing group : III

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Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### TDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFENOCONAZOLE AND SEDAXANE)
Class	: 9
Packing group	: III
Labels	: 9
ERG Code	: 171
Marine pollutant	: yes(DIFENOCONAZOLE, SEDAXANE)
Remarks	: Class 9 Exemption from Part 3, Documentation, and Part 4, Dangerous Goods Safety Marks, if transported solely on land by road vehicle or railway vehicle. 1.45.1. SOR/2008-34

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

Warning, contains the allergens 1,2-benzisothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol, 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label: Read the label, authorised under the Pest Control Products Act, prior to using or handling the pest control product

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

Potential skin sensitiser

### The components of this product are reported in the following inventories:

DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. sedaxane  difenoconazole  metalaxyl-M (ISO)  fludioxonil (ISO)
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### Canadian lists

No substances are subject to a Significant New Activity Notification.

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWA EV	:	Time-weighted average exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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