

VIBRANCE RSTVersion
3.0Revision Date:
01/28/2020SDS Number:
S00057929826

This version replaces all previous versions.

SECTION 1. IDENTIFICATION

Product name : VIBRANCE RST

Design code. : A21606B

Product Registration number : 100-1656

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC

Address : Post Office Box 18300
Greensboro NC 27419
United States of America (USA)

Telephone : 1 800 334 9481

Telefax : 1 336 632 2192

Emergency telephone : 1 800 888 8372

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Acute toxicity (Oral) : Category 4

Carcinogenicity : Category 2

GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H351 Suspected of causing cancer.Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

and understood.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
propane-1,2-diol	57-55-6	>= 5 - < 10
titanium dioxide	13463-67-7	>= 5 - < 10
metalaxyl-M	70630-17-0	6.71
Azoxystrobin	131860-33-8	6.71
sedaxane	874967-67-6	3.13
fludioxonil	131341-86-1	1.12

Actual concentration 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 : Take the victim into fresh air.
 If breathing is irregular or stopped, administer artificial respiration.
 Keep patient warm and at rest.
 Call a physician or poison control center 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.

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

- 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. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon 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 ingredients, 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 fire-fighters : 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).

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

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

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propane-1,2-diol	57-55-6	TWA	10 mg/m ³	US WEEL
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA	10 mg/m ³ (Titanium dioxide)	ACGIH
Azoxystrobin	131860-33-8	TWA	4 mg/m ³	Syngenta
metalaxyl-M	70630-17-0	TWA	5 mg/m ³	Syngenta
sedaxane	874967-67-6	TWA	2 mg/m ³	Syngenta
fludioxonil	131341-86-1	TWA	5 mg/m ³	Syngenta
		TWA (Inhalable fraction)	1 mg/m ³	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.

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

Personal protective equipment

Respiratory protection : Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : No special protective equipment required.

Eye protection : No special protective equipment required.

Skin and body protection : No special protective equipment required. Select skin and body protection based on the physical job requirements.

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

Color : white

Odor : No data available

Odor Threshold : No data available

pH : 6 - 10
Concentration: 1 z%w/v

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 : No data available

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

flammability limit

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Density : 1.10 - 1.14 g/cm³ (20 °C / 20 °C)

Solubility(ies)

Solubility in other solvents : No data available

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

Autoignition temperature : 465 °C / 465 °C

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Explosive properties : Not explosive

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

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

VIBRANCE RST

Version
3.0Revision Date:
01/28/2020SDS Number:
S00057929826

This version replaces all previous versions.

Acute toxicity

Product:

- Acute oral toxicity : LD50 (Rat, female): 1,750 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.08 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute toxicity estimate: 10.43 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

metalaxyl-M:

- 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

Azoxystrobin:

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- LC50 (Rat, male): 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

sedaxane:

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

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

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

fludioxonil:

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

Skin corrosion/irritation**Product:**

Species : Rabbit
Result : No skin irritation

Components:**metalaxyl-M:**

Species : Rabbit
Result : No skin irritation

Azoxystrobin:

Species : Rabbit
Result : No skin irritation

sedaxane:

Species : Rabbit
Result : No skin irritation

fludioxonil:

Species : Rabbit
Result : No skin irritation

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

Species : Rabbit
Result : No eye irritation

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

Components:**metalaxyl-M:**

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

Azoxystrobin:

Species : Rabbit
Result : No eye irritation

sedaxane:

Species : Rabbit
Result : No eye irritation

fludioxonil:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitization**Product:**

Test Type : mouse lymphoma cells
Species : Mouse
Result : Does not cause skin sensitization.

Components:**metalaxyl-M:**

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

Azoxystrobin:

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

sedaxane:

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

fludioxonil:

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

VIBRANCE RST

Version
3.0

Revision Date:
01/28/2020

SDS Number:
S00057929826

This version replaces all previous versions.

Germ cell mutagenicity

Components:

metalaxyl-M:

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

Azoxystrobin:

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

sedaxane:

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

fludioxonil:

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

Carcinogenicity

Components:

metalaxyl-M:

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

Azoxystrobin:

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

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.

fludioxonil:

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

IARC

Group 2B: Possibly carcinogenic to humans
titanium dioxide

13463-67-7

VIBRANCE RST

Version
3.0

Revision Date:
01/28/2020

SDS Number:
S00057929826

This version replaces all previous versions.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

metalaxyl-M:

Reproductive toxicity - Assessment : No toxicity to reproduction

Azoxystrobin:

Reproductive toxicity - Assessment : No toxicity to reproduction

sedaxane:

Reproductive toxicity - Assessment : No toxicity to reproduction

fludioxonil:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT-repeated exposure

Components:

metalaxyl-M:

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

Repeated dose toxicity

Components:

Azoxystrobin:

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

sedaxane:

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

fludioxonil:

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

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data is available on the product itself.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data is available on the product itself.

Toxicity to algae/aquatic plants : Remarks: No data is available on the product itself.

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life., Classification of the product is based on the summation of the concentrations of classified components.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.

Components:

titanium dioxide:

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l
Exposure time: 72 h

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

metalaxyl-M:

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

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 (Pseudokirchneriella subcapitata (green algae)): 271 mg/l
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 19.7 mg/l
End point: Growth rate
Exposure time: 96 h

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 50 mg/l
Exposure time: 28 zd

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l
Exposure time: 21 zd

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

Azoxystrobin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Americamysis): 0.055 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2 mg/l
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.038 mg/l

End point: Growth rate
Exposure time: 96 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.16 mg/l
Exposure time: 28 zd

NOEC (Pimephales promelas (fathead minnow)): 0.147 mg/l
Exposure time: 33 zd

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.044 mg/l
Exposure time: 21 zd

NOEC (Americamysis): 0.0095 mg/l
Exposure time: 28 zd

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to microorganisms : IC50 (Pseudomonas putida): > 3.2 mg/l
Exposure time: 6 h

sedaxane:

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

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

- 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 (*Pseudokirchneriella subcapitata* (green algae)): 3 mg/l
Exposure time: 96 h
- NOEC (*Pseudokirchneriella subcapitata* (green algae)): 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 zd
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 0.82 mg/l
Exposure time: 21 zd
- fludioxonil:**
- 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 (*Pseudokirchneriella subcapitata* (green algae)): > 0.44 mg/l
Exposure time: 96 h
- NOEC (*Pseudokirchneriella subcapitata* (green algae)): 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

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

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 zd

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

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

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

M-Factor (Chronic aquatic toxicity) : 1

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

Persistence and degradability

Components:

metalaxyl-M:

Biodegradability : Result: Not readily biodegradable.

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

Azoxystrobin:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 214 d
Remarks: The substance is stable in water.

sedaxane:

Biodegradability : Result: Not readily biodegradable.

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

fludioxonil:

Biodegradability : Result: Not readily biodegradable.

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

Bioaccumulative potential**Components:****metalaxyl-M:**

Bioaccumulation : Remarks: Low bioaccumulation potential.

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

Azoxystrobin:

Bioaccumulation : Remarks: Does not bioaccumulate.

sedaxane:

Bioaccumulation : Remarks: Does not bioaccumulate.

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

fludioxonil:

Bioaccumulation : Remarks: Does not bioaccumulate.

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

Mobility in soil**Components:****metalaxyl-M:**

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.

Azoxystrobin:

Distribution among environmental compartments : Remarks: Azoxystrobin has low to very high mobility in soil.

Stability in soil : Dissipation time: 80 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.

VIBRANCE RST

Version 3.0	Revision Date: 01/28/2020	SDS Number: S00057929826	This version replaces all previous versions.
----------------	------------------------------	-----------------------------	--

fludioxonil:

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:

metalaxyl-M:

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).

Azoxystrobin:

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).

fludioxonil:

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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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 : 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.

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN 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. (AZOXYSTROBIN AND SEDAXANE)
 Class : 9
 Packing group : III
 Labels : Class 9 - Miscellaneous dangerous substances and articles
 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. (AZOXYSTROBIN AND SEDAXANE)
 Class : 9
 Packing group : III
 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.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

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.

VIBRANCE RST

Version 3.0 Revision Date: 01/28/2020 SDS Number: S00057929826 This version replaces all previous versions.

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution

Harmful if swallowed.

Harmful if absorbed through skin.

Avoid contact with skin, eyes 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 re-use.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sodium hydroxide	1310-73-2	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Acute toxicity (any route of exposure)
Carcinogenicity

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The ingredients of this product are reported in the following inventories:

TSCA : On or in compliance with the active portion of the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

VIBRANCE RST

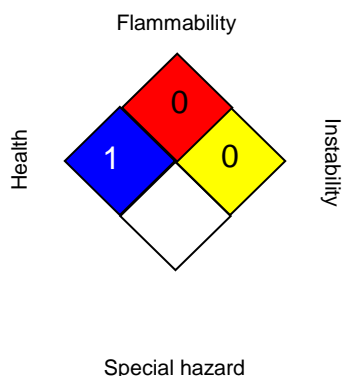
Version
3.0Revision Date:
01/28/2020SDS Number:
S00057929826

This version replaces all previous versions.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	1
FLAMMABILITY	0	
PHYSICAL HAZARD	0	

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA	:	8-hour, time-weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
US WEEL / TWA	:	8-hr TWA

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); EC_x - Concentration associated with x% response; EHS - Extremely Hazardous Substance; EL_x - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC_x - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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)

VIBRANCE RST

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.0	01/28/2020	S00057929826	

tative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Revision Date : 01/28/2020

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

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8