Safety Data Sheet

VIBRANCE® CINCO

Date: 6/19/2018

Replaces: N\A

1. PRODUCT IDENTIFICATION

Product identifier on label: **VIBRANCE® CINCO**

Product No.: A22180A

Use: Fungicide

Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications:
Inhalation: Category 4
Specific Target Organ Toxicity: Repeated Category 2
Eye Damage/Irritation: Category 2A
Skin Sensitizer: Category 1

Signal Word (OSHA): Warning

Hazard Statements:
May cause an allergic skin reaction
Causes serious eye irritation
Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements:
Do not breathe mist, vapors, spray.
Wash hands and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection.
If on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice.
Call a poison center, doctor or Syngenta if you feel unwell.

See Section 4 First Aid Measures.

Wash contaminated clothing before reuse.

Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Ethylene Glycol	Ethylene Glycol	107-21-1	<10%
1,2-Propanediol	Propylene Glycol	57-55-6	<5%
4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile	Fludioxonil	131341-86-1	2.83%
1H-Benzimidazole, 2-(4-thiazolyl)-	Thiabendazole	148-79-8	22.67%
Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate	Azoxystrobin	131860-33-8	1.28%
(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester	Metalaxyl-M	70630-17-0 & 69516-34-3	2.26%
1H-Pyrazole-4-carboxamide, N-(2-[1,1'-bicyclopropyl]-2-ylphenyl)-3-(difluoromethyl)-1-methyl-	Sedaxane	874967-67-6	5.67%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Eye irritation

Allergic skin reaction

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

None known.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Not Applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Ethylene Glycol	Not Established	100 mg/m³ (ceiling) [aerosol]	Not Established	Not Applicable
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA	AIHA
Fludioxonil	Not Established	Not Established	5 mg/m³ TWA	Syngenta
Thiabendazole	Not Established	Not Established	5 mg/m³ TWA	Syngenta
Azoxystrobin	Not Established	Not Established	2 mg/m³ TWA	Syngenta
Metalaxyl-M	Not Established	Not Established	5 mg/m³ TWA	Syngenta

Sedaxane	Not Established	Not Established	2 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use splash-proof chemical goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear.

Inhalation:

A combination particulate/organic vapor respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown liquid

Odor: Faint aromatic

Odor Threshold: Not Applicable

pH: 7.2 (1% dispersion)

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Applicable

Flash Point (Test Method): >103°C

Flammable Limits (% in Air): NotAvailable

Flammability: Not Available

Vapor Pressure: Azoxystrobin 8.25 x 10(-13) mmHg @ 68°F (20°C)
Fludioxonil 2.9 x 10(-9) mmHg @ 77°F (25°C)
Metalaxyl-M 2.5 x 10(-5) mmHg @ 77°F (25°C)
Sedaxane 4.9 x 10(-10) mmHg @ 68°F (20°C)
Thiabendazole 4.0 x 10(-9) mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 1.13 g/ml

Solubility (ies): Azoxystrobin 6 mg/l in water @ 68°F (20°C)
Fludioxonil 1.8 mg/l @ 77°F (25°C)
Metalaxyl-M 26 g/l @ 77°F (25°C)
Sedaxane 14 mg/l @ 77°F (25°C)

Thiabendazole 30 mg/l (pH 7, pH 10) @ 68°F in water

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: 475°C

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation, Rash, redness or itching

Delayed, immediate and chronic effects of exposure: Eye irritation, Allergic skin reaction

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	> 2000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	1.07 mg/l - 4 hours (calculated)
Eye Contact:	Minimally Irritating	
Skin Contact:	Non-Irritating	
Skin Sensitization:	Not a Sensitizer (Mouse)	

Reproductive/Developmental Effects

Azoxystrobin: Shows weak chromosomal damage in mammalian cells at cytotoxic levels. Negative in whole animal assays for chromosomal and DNA damage at high dosages (> or = 2000 mg/kg).
In rabbits, no effect was observed up to the highest dose level (500 mg/kg/day). In rats, developmental effects were seen only at maternally toxic doses (100 mg/kg/day).

Fludioxonil: Delayed development at doses causing maternal toxicity.

Metalaxyl-M: None observed.

Sedaxane: Did not show teratogenic effects in animal experiments.
Did not show reproductive toxicity effects in animal experiments.

Thiabendazole: Did not show reproductive toxicity effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Azoxystrobin: In a rat 90-day feeding study, liver toxicity was observed at 2000 ppm. This was manifest as gross distension of the bile duct, increased numbers of lining cells and inflammation of the duct. No toxicologically significant effects were seen in repeat dose dog studies.
Data reviews do not indicate any potential for endocrine disruption.
There is no evidence of neurotoxicity in any of the studies conducted with azoxystrobin.

Fludioxonil: Liver and kidney toxicity at high dose levels.

Metalaxyl-M: Liver effects at high dose animal tests.

Sedaxane: STOT - Repeated Exposure : No adverse effect has been observed in chronic toxicity tests.

Thiabendazole: Increased incidence of anemia and changes in the gall bladder, kidney, liver, spleen and thyroid gland in rat and dog tests.

No adverse health effects are expected in humans at airborne levels below the occupational exposure limit.

Carcinogenicity

Azoxystrobin: No carcinogenic effects observed in rats or mice at doses up to the maximum tolerated dose.

Fludioxonil: Marginal increase (7%) of liver tumors (female, rats: 3,000 ppm); Within historical control range (1 to 10%).

Metalaxyl-M: None observed.

Sedaxane: Did not show mutagenic effects in animal experiments.
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.

Thiabendazole: Following dietary administration to Sprague-Dawley rats for 2 years, a high dose (90 mg/kg/day) of thiabendazole resulted in a minimally increased incidence of thyroid follicular cell adenomas in male rats only. The mode of action (MOA) is not relevant to humans, supporting the conclusion that thiabendazole does not pose a carcinogenic hazard to humans.

Chemical Name	NTP/IARC/OSHA Carcinogen
Ethylene Glycol	No
1,2-Propanediol	No
4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile	No
1H-Benzimidazole, 2-(4-thiazolyl)-	No
Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate	No
(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester	No
1H-Pyrazole-4-carboxamide, N-(2-[1,1'-bicyclopropyl]-2-ylphenyl)-3-(difluoromethyl)-1-methyl-	No

Other Toxicity Information

Not Available

Toxicity of Other Components

Ethylene Glycol

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice. Exposure to high

concentrations of mists or aerosols may result in effects on the hematopoietic system and central nervous system with headache, dizziness and drowsiness. Severe kidney damage results from swallowing large amounts of ethylene glycol.

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Azoxystrobin:	Liver
Fludioxonil:	Liver, kidney
Metalaxyl-M:	Liver
Sedaxane:	Not Applicable
Thiabendazole:	Thyroid, liver, spleen, kidney, gall bladder, blood

Inert Ingredients

Ethylene Glycol:	Blood, kidney, CNS
Propylene Glycol:	CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Fludioxonil:

Fish (Rainbow Trout) 96-hour LC50 0.47 ppm

Green Algae 5-day EC50 0.087 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.9 ppm

Bird (Bobwhite Quail) 14-day LD50 > 2000 mg/kg

Thiabendazole:

Bird (Bobwhite Quail) LD50 Oral > 2250 mg/kg

Fish (Trout) 96-hour LC50 0.56 ppm

Invertebrate (Water Flea) 48-hour EC50 0.81 mg/l

Azoxystrobin:

Green Algae 5-day EC50 106 ppb

Invertebrate (Water Flea) 48-hour EC50 259 ppb

Fish (Rainbow Trout) 96-hour LC50 470 ppb

Bird (Mallard Duck) 14-day LD50 > 250 mg/kg

Metalaxyl-M:

Fish (Rainbow Trout) 96-hour LC50 > 121 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 113 ppm

Bird (Bobwhite Quail) 14-day LD50 981 mg/kg

Sedaxane:

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 6.10 mg/l

Green Algae 96-hour EbC50 1.9 mg/l

Fish (Carp) 96-hour LC50 0.62 mg/l

Environmental Fate

Azoxystrobin:

The information presented here is for the active ingredient, ICI5504.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h).

Fludioxonil:

The information presented here is for the active ingredient, fludioxonil.
Does not bioaccumulate. Persistent in soil. Stable in water. Low mobility in soil. Sinks in water (after 24 h).

Metalaxyl-M:

The information presented here is for the active ingredient, metalaxyl-m.
Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

Sedaxane:

The information presented here is for the active ingredient, sedaxane.
Material is not readily biodegradable. Material is not persistent in soil.

Thiabendazole:

The information presented here is for the active ingredient, thiabendazole.
Low bioaccumulation potential. Stable in soil and water. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Thiabendazole, Azoxystrobin)
Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Thiabendazole, Azoxystrobin)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

Pesticide Registration:

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, inhaled or absorbed through skin. Avoid breathing vapor or spray mist. 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 reuse.

EPA Registration Number(s):

100-1629

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: See Section 2 Hazards

Section 313 Toxic Chemicals: Thiabendazole 22.67% (CAS No. 148-79-8)
Ethylene Glycol <10% (CAS No. 107-21-1)

CERCLA/SARA 304 Reportable Quantity (RQ):

Not Applicable

RCRA Hazardous Waste Classification (40 CFR 261):

Not Applicable

TSCA Status:

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	2
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/19/2018

Revision Date: Replaces:

Section(s) Revised:

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.