

## DACONIL ACTION

Date: 10/17/2018  
Replaces: 7/31/2018

### 1. PRODUCT IDENTIFICATION

Product identifier on label: **DACONIL ACTION**  
Product No.: A16422A  
Use: Fungicide/Plant Activator  
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: Skin Corrosion/Irritation: Category 2  
Oral: Category 4  
Skin Sensitizer: Category 1B  
Carcinogenicity: Category 2  
Specific Target Organ Toxicity: Repeated Category 2  
Eye Damage/Irritation: Category 2A  
Inhalation: Category 2

Signal Word (OSHA): Danger

Hazard Statements: Harmful if swallowed  
Causes skin irritation  
May cause an allergic skin reaction  
Causes serious eye irritation  
Fatal if inhaled  
May cause respiratory irritation  
Suspected of causing cancer  
May cause damage to blood, liver, lung, kidney, spleen through prolonged or repeated exposure.

Hazard Symbols:



Precautionary Statements: Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe mist, vapors, spray.  
Wash hands and face thoroughly after handling.  
Do not eat, drink or smoke when using this product.

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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.  
In case of inadequate ventilation wear respiratory protection. See Section 8 Exposure Control/Personal Protection.  
If swallowed: Immediately call a poison center, doctor or Syngenta. Rinse mouth.  
If on skin: Wash with plenty of soap and water.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If exposed or concerned: Call a poison center, doctor or Syngenta.  
Immediately call a poison center, doctor or Syngenta.  
Specific treatment is urgent (see Section 4 First Aid Measures).  
See Section 4 First Aid Measures.  
If skin irritation or rash occurs: Get medical advice.  
If eye irritation persists: Get medical advice.  
Wash contaminated clothing before reuse.  
Store locked up.  
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
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
Tetrachloroisophthalonitrile	Chlorothalonil	1897-45-6	(53.94%)
1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester	Acibenzolar-S-Methyl	135158-54-2	(0.11%)

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. Have the person sip a glass of water if able to swallow. 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.

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### Most important symptoms/effects:

Eye irritation  
Skin irritation  
Allergic skin reaction  
Respiratory irritation

### Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.  
Treat symptomatically.  
Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

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## 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:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage.

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.

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## 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.

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## 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:

Store locked up.

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### 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
Propylene Glycol	Not Established	Not Established	10 mg/m <sup>3</sup> TWA	AIHA
Chlorothalonil	Not Established	Not Established	0.1 mg/m <sup>3</sup> TWA	Syngenta
Acibenzolar-S-Methyl	Not Established	Not Established	5 mg/m <sup>3</sup> 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 chemical splash 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 gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

**Inhalation:**

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey liquid

Odor: Weak paint

Odor Threshold: Not Available

pH: 7.4 (1% solution in deionized H<sub>2</sub>O @ 77°F [25°C])

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): > 212°F (Pensky-Martens CC)

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: Acibenzolar-S-Methyl 0.00000165mmHg @ 68°F (20°C)

Chlorothalonil 0.00000057mmHg @ 77°F (25°C)

Vapor Density: Not Applicable

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Relative Density: 1.350 g/cm<sup>3</sup> @ 68°F (20°C)  
 Solubility (ies): Acibenzolar-S-Methyl 7.7 mg/l @ 68°F (20°C)  
 Chlorothalonil 0.81 mg/l @ 77°F (25°C)  
 Partition coefficient: n-octanol/water: Not Available  
 Autoignition Temperature: > 1202°F  
 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: Not Available  
 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, Skin irritation, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Eye irritation, Skin irritation, Allergic skin reaction, Respiratory system effects

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

Ingestion:	Oral (LD50 Female Rat) :	3045 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 0.26 mg/l
Eye Contact:	Severely Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	A skin sensitizer.	

#### Reproductive/Developmental Effects

Acibenzolar-S-Methyl: Developmental toxicity and fetal malformations observed at high maternal doses (rats). Additional testing showed that these effects are not relevant to humans.

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

### Chronic/Subchronic Toxicity Studies

Acibenzolar-S-Methyl: Slight hemolytic anemia at highest dose level (rats, mice and dogs). Liver and spleen effects observed in highest dose level (rats and dogs).

Chlorothalonil: In dogs, 1 year administration caused a significant decrease in body weight gain and increases in absolute liver and kidney weights.

Neurotoxicity: No evidence in regulatory studies.

### Carcinogenicity

Acibenzolar-S-Methyl: Not carcinogenic at dietary levels up to 7500 ppm (rat) and 6000 ppm (mouse).

Chlorothalonil: Chlorothalonil causes kidney tumors in rats and mice via a nongentoxic mode of action secondary to target organ toxicity.

Did not show mutagenic effects in animal experiments.

IARC identifies chlorothalonil as a 2B carcinogen (possibly carcinogenic to humans).

Chemical Name	NTP/IARC/OSHA Carcinogen
1,2-Propanediol	No
Tetrachloroisophthalonitrile	IARC Group 2B
1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester	No

### Other Toxicity Information

None

### Toxicity of Other Components

#### Propylene Glycol

Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation.

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.

Chronic dietary exposure caused kidney and liver injury in experimental animals.

### Target Organs

#### Active Ingredients

Acibenzolar-S-Methyl: Blood, liver, spleen

Chlorothalonil: Lung, kidney

#### Inert Ingredients

Propylene Glycol: Nervous system, kidney, liver

## 12. ECOLOGICAL INFORMATION

### Eco-Acute Toxicity

#### Chlorothalonil:

Green Algae 5-day EC50 190 ppb

Bird (Mallard Duck) LD50 Oral > 4640 mg/kg

Invertebrate (Water Flea) 48-hour EC50 70 ppb

Fish (Rainbow Trout) 96-hour LC50 47 ppb

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### Acibenzolar-S-Methyl:

Fish (Rainbow Trout) 96-hour LC50 0.88 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 2.9 ppm

Green Algae 72-hour EC50 80.1 ppm

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

### Environmental Fate

#### Acibenzolar-S-Methyl:

The information presented here is for the active ingredient, acibenazolar-s-methyl.

Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).

#### Chlorothalonil:

The information presented here is for the active ingredient, chlorothalonil.

Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. 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.

Tank Truck: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), Marine Pollutant

Hazard Class: Class 9

Identification Number: UN 3082

Packing Group: PG III

### Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), 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. (Chlorothalonil)

Hazard Class: Class 9

Identification Number: UN 3082

Packing Group: PG III

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### 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:

Warning: Causes substantial but temporary eye injury. Harmful if swallowed May be fatal if inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**EPA Registration Number(s):**

100-1364

**EPCRA SARA Title III Classification:**

Section 311/312 Hazard Classes: Acute Health Hazard  
 Chronic Health Hazard

Section 313 Toxic Chemicals: Chlorothalonil (53.94%) (CAS No. 1897-45-6)

**California Proposition 65:**

ATTENTION: This product can expose you to chemicals including chlorothalonil, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**CERCLA/SARA 304 Reportable Quantity (RQ):**

None

**RCRA Hazardous Waste Classification (40 CFR 261):**

Not Applicable

**TSCA Status:**

Exempt from TSCA, subject to FIFRA

### 16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2  
 Flammability: 1  
 Instability: 0

HMIS Hazard Ratings

Health: 2  
 Flammability: 1  
 Reactivity: 0

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

Syngenta Hazard Category: D,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 5/3/2011

Revision Date: 10/17/2018

Replaces: 7/31/2018

Section(s) Revised: 2,11

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.



## HERITAGE® ACTION

Date: 7/6/2015

Replaces: 5/21/2015

### 1. PRODUCT IDENTIFICATION

Product identifier on label: **HERITAGE® ACTION**  
Product No.: A20964A  
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: Specific Target Organ Toxicity: Repeated Category 2  
Specific Target Organ Toxicity: Respiratory Irritation Category 3  
Carcinogenicity: Category 1A  
Signal Word (OSHA): Danger  
Hazard Statements: May cause respiratory irritation  
May cause cancer  
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing, eye protection.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If exposed or concerned: Get medical advice/attention.  
Call a poison center, doctor or Syngenta if you feel unwell.  
Store locked up.  
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: May form combustible dust concentrations in air.

## HERITAGE® ACTION

Date: 7/6/2015

Replaces: 5/21/2015

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	Common Name	CAS Number	Concentration
Crystalline Silica, Quartz and Cristobalite	Crystalline Silica, Quartz and Cristobalite	14808-60-7	< 1%
Kaolin Clay	Kaolin Clay	1332-58-7	Trade Secret
Other ingredients	Other ingredients	Trade Secret	>47.82%
Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate	Azoxystrobin	131860-33-8	50%
1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester	Acibenzolar-S-Methyl	135158-54-2	1.18%

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:

Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

**5. FIRE FIGHTING MEASURES**

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO<sub>2</sub> extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

Fire will spread by burning with flame.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

See also Sec. 7.

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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:

Avoid dust formation.

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. Sweep up material and place in a 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:

This material can become readily charged in most operations.

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.

In general personnel handling this material and all conducting equipment should be electrically earthed or grounded. Bulk bags (FIBC) used to contain this material should be Type B, Type C or Type D. Type C bags must be electrically grounded or earthed before powder is charged to or discharged from the bag. If metal or fiber drums are used to contain this material, make certain the metal parts are bonded to the filling equipment and grounded.

Conditions for safe storage, including any incompatibilities:

Store locked up.

**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
Crystalline Silica, Quartz and Cristobalite	10 mg/m <sup>3</sup> /(%SiO <sub>2</sub> +2) (respirable dust)	0.025 mg/m <sup>3</sup> (respirable silica)	0.05 mg/m <sup>3</sup> (respirable dust)	NIOSH
Kaolin Clay	15 mg/m <sup>3</sup> TWA (total); 5 mg/m <sup>3</sup> TWA (respirable)	2 mg/m <sup>3</sup> TWA (respirable)	10 mg/m <sup>3</sup> TWA (total); 5 mg/m <sup>3</sup> TWA (respirable)	NIOSH
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Azoxystrobin	Not Established	Not Established	4 mg/m <sup>3</sup> TWA	Syngenta
Acibenzolar-S-Methyl	Not Established	Not Established	5 mg/m <sup>3</sup> TWA	Syngenta

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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 dust-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 gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

**Inhalation:**

A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use NIOSH certified respirator with any N, 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: Off-white solid  
 Odor: Musty  
 Odor Threshold: Not Available  
 pH: 7.5 (1% Aqueous Solution)  
 Melting point/freezing point: Not Available  
 Initial boiling point and boiling range: Not Available  
 Flash Point (Test Method): Not Available  
 Flammable Limits (% in Air): Not Available  
 Flammability: Not Available  
 Vapor Pressure: Acibenzolar-S-Methyl 0.00000165mmHg @ 68°F (20°C)  
                   Azoxystrobin 8.25 x 10<sup>(-13)</sup> mmHg @ 68°F (20°C)  
 Vapor Density: Not Available  
 Relative Density: 0.5645 g/ml  
 Solubility (ies): Acibenzolar-S-Methyl 7.7 mg/l @ 68°F (20°C)  
                   Azoxystrobin 6 mg/l in water @ 68°F (20°C)  
 Partition coefficient: n-octanol/water: Not Available  
 Autoignition Temperature: Not Available  
 Decomposition Temperature: Not Available  
 Viscosity: Not Available  
 Other: None

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### 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: Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Respiratory system effects

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

Ingestion:	Oral (LD50 Female Rat) :	> 5,000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 5,000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.60 mg/l
Eye Contact:	Mild Irritant	
Skin Contact:	Non-Irritating	
Skin Sensitization:	Not a Sensitizer (LLNA Assay)	

#### Reproductive/Developmental Effects

Acibenzolar-S-Methyl: Developmental toxicity and fetal malformations observed at high maternal doses (rats). Additional testing showed that these effects are not relevant to humans.

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

#### Chronic/Subchronic Toxicity Studies

Acibenzolar-S-Methyl: Slight hemolytic anemia at highest dose level (rats, mice and dogs). Liver and spleen effects observed in highest dose level (rats and dogs).

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

#### Carcinogenicity

Acibenzolar-S-Methyl: Not carcinogenic at dietary levels up to 7500 ppm (rat) and 6000 ppm (mouse).

Azoxystrobin : Did not show carcinogenic effects in animal experiments.

Chemical Name	NTP/IARC/OSHA Carcinogen
Crystalline Silica, Quartz and Cristobalite	IARC 1; ACGIH A2
Kaolin Clay	No
Other ingredients	No

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Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate No  
 1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester No

### Other Toxicity Information

Not Available

### Toxicity of Other Components

Crystalline Silica, Quartz and Cristobalite

Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

Kaolin Clay

May cause eye and respiratory tract irritation.  
 Long-term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long-term exposure may affect respiratory function in some individuals.

Other ingredients

Not Applicable

### Target Organs

#### Active Ingredients

Acibenzolar-S-Methyl: Blood, liver, spleen

Azoxystrobin : Liver

#### Inert Ingredients

Crystalline Silica, Quartz and Cristobalite: Respiratory tract

Kaolin Clay: Eye, respiratory tract, lung

Other ingredients: Not Applicable

## 12. ECOLOGICAL INFORMATION

### Eco-Acute Toxicity

Azoxystrobin :

Fish (Rainbow Trout) 96-hour LC50 470 ppb

Green Algae 5-day EC50 106 ppb

Invertebrate (Water Flea) 48-hour EC50 259 ppb

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

Acibenzolar-S-Methyl:

Fish (Rainbow Trout) 96-hour LC50 0.88 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 2.9 ppm

Green Algae 72-hour EC50 80.1 ppm

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

### Environmental Fate

Acibenzolar-S-Methyl:

The information presented here is for the active ingredient, acibenzolar-s-methyl.  
 Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).

## HERITAGE® ACTION

Date: 7/6/2015

Replaces: 5/21/2015

### Azoxystrobin :

The information presented here is for the active ingredient, azoxystrobin.  
Low bioaccumulation potential. Not persistent in soil. Stable in water. Moderate mobility in soil. 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, Solid, N.O.S. (Azoxystrobin), Marine Pollutant

Hazard Class: Class 9

Identification Number: UN 3077

Packing Group: PG III

### Air Transport

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Azoxystrobin)

Hazard Class: Class 9

Identification Number: UN 3077

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: Causes moderate eye irritation. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective eyewear, long sleeved shirt and long pants, socks and shoes. Remove and wash contaminated clothing before reuse.

### EPA Registration Number(s):

100-1550

### EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

## HERITAGE® ACTION

Date: 7/6/2015  
 Replaces: 5/21/2015

CERCLA/SARA 304 Reportable Quantity (RQ):  
 Not Applicable  
 RCRA Hazardous Waste Classification (40 CFR 261):  
 Not Applicable  
 TSCA Status:  
 TSCA R & D Exempt

### 16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2  
 Flammability: 1  
 Instability: 0

HMIS Hazard Ratings

Health: 2\*  
 Flammability: 1  
 Reactivity: 0

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

Syngenta Hazard Category: D

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 1/13/2015  
 Revision Date: 7/6/2015 Replaces: 5/21/2015  
 Section(s) Revised: 2, 4, 11, 16

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.