

**ARBOTECT® 20-S Fungicide**

Date: 7/21/2014  
 Replaces: 4/25/2014

**1. PRODUCT IDENTIFICATION**

Product identifier on label: **ARBOTECT® 20-S Fungicide**

Product No.: A10345A

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: Not Applicable

Signal Word (OSHA): Not Applicable

Hazard Statements: Not Applicable

Hazard Symbols:

Precautionary Statements: Not Applicable

Other Hazard Statements: None

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	Common Name	CAS Number	Concentration
Other ingredients	Other ingredients	Trade Secret	73.4%
1H-Benzimidazole, 2-(4-thiazolyl)-	Thiabendazole	148-79-8	26.6%

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.

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- 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:

Not Applicable

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:

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

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

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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
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Thiabendazole	Not Established	Not Established	10 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:**

Eye protection is not required for normal handling. Where eye contact is likely, wear tight-fitting chemical goggles.

**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 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 certified respirator with any N, R, P or HE filter.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: Yellow orange liquid

Odor: Weak, like hydrogen sulfide

Odor Threshold: Not Available

pH: 2.7 (1% suspension in water)

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: 212 °F

Flash Point (Test Method): Not Applicable

Flammable Limits (% in Air): Not Available

Flammability: Not Available

Vapor Pressure: Thiabendazole 4.0 x 10<sup>(-9)</sup> mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 1.1 @ 77°F (25°C)

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

Partition coefficient: n-octanol/water: Not Available

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Autoignition Temperature: Not Available  
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: None known.

**11. TOXICOLOGICAL INFORMATION**Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Not Applicable

Delayed, immediate and chronic effects of exposure: Not Applicable

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

Ingestion:	Oral (LD50 Rabbit) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rabbit) :	> 5050 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	Not Available
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Practically Non-Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

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

Chronic/Subchronic Toxicity Studies

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.



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Carcinogenicity

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
Other ingredients	No
1H-Benzimidazole, 2-(4-thiazolyl)-	No

Other Toxicity Information

None

Toxicity of Other Components

Other ingredients  
Not Applicable

Target OrgansActive Ingredients

Thiabendazole: Thyroid, liver, spleen, kidney, gall bladder, blood

Inert Ingredients

Other ingredients: Not Applicable

**12. ECOLOGICAL INFORMATION**Eco-Acute Toxicity

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

Environmental Fate

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

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**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), Marine Pollutant  
Hazard Class: Class 9  
Identification Number: UN 3082  
Packing Group: PG III

Air Transport - International  
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Thiabendazole)  
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:

Caution: Harmful if swallowed. Harmful if inhaled. Avoid breathing spray mist. May irritate skin. Avoid contact with skin or eyes.

EPA Registration Number(s):  
100-892

## EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Thiabendazole 26.6% (CAS No. 148-79-8)

## California Proposition 65:

This product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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

None

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

Corrosive D002

## TSCA Status:

Exempt from TSCA, subject to FIFRA

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### 16. OTHER INFORMATION

#### NFPA Hazard Ratings

Health: 1  
Flammability: 1  
Instability: 0

#### HMIS Hazard Ratings

Health: 1  
Flammability: 1  
Reactivity: 0

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

Syngenta Hazard Category: A

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/5/1989  
Revision Date: 7/21/2014 Replaces: 4/25/2014  
Section(s) Revised: 3, 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.

