

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **ARBOTECT 20-S** Product No.: A10345A
 EPA Signal Word: Caution
 Active Ingredient(%): Thiabendazole (26.6%) CAS No.: 148-79-8
 Chemical Name: 1H-Benzimidazole, 2-(4-thiazolyl)-
 Chemical Class: Benzimidazole Fungicide
 EPA Registration Number(s): 100-892 **Section(s) Revised: 14**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Hypophosphorus Acid (50% Solution)	Not Established	Not Established	Not Established	No
Thiabendazole (26.6%)	Not Established	Not Established	10 mg/m ³ TWA ***	No

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
 Syngenta Hazard Category: B, S

3. HAZARDS IDENTIFICATION
Symptoms of Acute Exposure

Irritating to eyes.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Yellow orange liquid
 Odor: Weak, like hydrogen sulfide

Unusual Fire, Explosion and Reactivity Hazards

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

4. FIRST AID MEASURES

Have the product container, label or Material 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.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): Not Available

Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable

Autoignition Temperature: Not Available

Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

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

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. 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. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

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

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

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.

Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

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: Yellow orange liquid
Odor: Weak, like hydrogen sulfide
Melting Point: Not Applicable
Boiling Point: 212°F
Specific Gravity/Density: 1.10@ 77°F (25°C)
pH: 2.7(1% suspension in water)

Solubility in H₂O

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

Vapor Pressure

Thiabendazole: 4.0 x 10⁽⁻⁹⁾ mmHg @ 77°F

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: None known.
Materials to Avoid: Oxidizing agents (e.g., chlorates, nitrates)
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Practically Non-Toxic
Oral (LD50 Rat) : >5,000 mg/kg body weight
Dermal: Practically Non-Toxic
Dermal (LD50 Rat) : >5,050 mg/kg body weight
Inhalation: Not Available
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: Evidence of developmental effects (skeletal defects, cleft palate) observed in animal studies.

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.

Carcinogenicity

Thiabendazole: None observed.

Other Toxicity Information

None

Toxicity of Other Components

Hypophosphorus Acid (50% Solution)

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

Target Organs

Active Ingredients

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

Inert Ingredients

Hypophosphorus Acid (50% Solution): Not Applicable

12. ECOLOGICAL INFORMATION

Summary of Effects

Thiabendazole

Very toxic to aquatic organisms. The aquatic toxicity is not increased significantly by chronic exposure. Does not bioaccumulate in fish and is rapidly metabolized.

Eco-Acute Toxicity

Thiabendazole Invertebrates (Water Flea) LC50/EC50 0.81 ppm
Fish (Trout) LC50/EC50 0.55 ppm
Fish (Bluegill) LC50/EC50 19 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,620 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,620 ppm

Eco-Chronic Toxicity

Thiabendazole Not Available

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: Corrosive

Listed Waste: D002

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated.

Air Transport - NAFTA
Not regulated.

B/L Freight Classification

Fungicides, NOIBN

Comments

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

Air Transport - International
Not regulated.

15. REGULATORY INFORMATION

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

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Corrosive D002

TSCA Status

Exempt from TSCA, subject to FIFRA

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

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/5/1989

Revision Date: 10/2/2006

Replaces: 10/28/2004

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.

RSVP# : Not Applicable

End of MSDS