

**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: **ACTARA** Product No.: A9584C  
 EPA Signal Word: Caution  
 Active Ingredient(%): Thiamethoxam (25.0%) CAS No.: 153719-23-4  
 Chemical Name: 4H-1,3,5-Oxadiazin-4-imine,3-[(2-chloro-5-thiazolyl) methyl]tetrahydro-5-methyl-N-nitro-  
 Chemical Class: Neonicotinoid Insecticide  
 EPA Registration Number(s): 100-938 **Section(s) Revised: 3, 8**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Diatomaceous Earth	80 mg/m <sup>3</sup> /%SiO <sub>2</sub> (20 mppcf) TWA	10 (inhalable);3 mg/m <sup>3</sup> (respirable) TWA	6 mg/m <sup>3</sup> TWA**	No
Crystalline Silica, Quartz	10 mg/m <sup>3</sup> /(%SiO <sub>2</sub> +2) (respirable dust)	0.1 mg/m <sup>3</sup> (respirable silica)	Not Established	IARC Group 2A
Starch	15 mg/m <sup>3</sup> (total) TWA; 5 mg/m <sup>3</sup> (resp) TWA	10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> (total) TWA; 5 mg/m <sup>3</sup> (resp) TWA**	No
Thiamethoxam (25.0%)	Not Established	Not Established	Not Established	No

\*\* recommended by NIOSH

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

**3. HAZARDS IDENTIFICATION**
Symptoms of Acute Exposure

Causes mild eye and skin irritation.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Beige to brown granules  
 Odor: Musty

Unusual Fire, Explosion and Reactivity Hazards

This product is a combustible powder and like all combustible powders can ignite, burn and form explosive mixtures with air if not handled correctly. Mixtures of powder in air with flammable solvent vapors should be avoided.

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 Applicable	
Flammable Limits (% in Air):	Lower: % Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Not Flammable	

### Unusual Fire, Explosion and Reactivity Hazards

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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 CO<sub>2</sub> 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 in Protective Equipment Section. 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**

This product has a minimum ignition energy between 30 and 100 millijoules. Mechanical sparks, open flames and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form. This product can energetically decompose at approximately 284°F (140°C). Do not store or process at temperatures above 158°F (70°C). Do not store near sources of heat including steam lines.

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:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige to brown granules
Odor:	Musty
Melting Point:	Not Available
Boiling Point:	Not Applicable
Specific Gravity/Density:	0.47 g/cm <sup>3</sup> @ 68°F (20°C)
pH:	9.4 (1% aqueous dispersion)

### Solubility in H<sub>2</sub>O

Thiamethoxam: 4.1 g/l @ 77°F (25°C)

### Vapor Pressure

Thiamethoxam: 2 x 10<sup>(-11)</sup> mmHg @ 68°F (20°C)

## 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:	None known.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	<u>Practically Non-Toxic</u>	
	Oral (LD50 Rat) :	> 5,000 mg/kg body weight
Dermal:	<u>Slightly Toxic</u>	
	Dermal (LD50 Rat) :	> 2,000 mg/kg body weight
Inhalation:	<u>Slightly Toxic</u>	
	Inhalation (LC50 Rat) :	> 2.79 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

### Reproductive/Developmental Effects

Thiamethoxam: Teratogenic: Developmental delays at maternally toxic doses.  
Reproductive: None observed.

### Chronic/Subchronic Toxicity Studies

Thiamethoxam: Subchronic: Predominantly liver and kidney effects at high doses.  
Chronic: Predominantly liver and kidney effects at high doses.  
Acute: Transient clinical signs at high doses. No changes to nervous tissue.  
Subchronic: Not neurotoxic.

### Carcinogenicity

Thiamethoxam: Liver tumors at high doses (mice). No treatment-related tumors in rats.

### Other Toxicity Information

None

### Toxicity of Other Components

#### Diatomaceous Earth

The carrier in this product is naturally occurring diatomaceous earth. Natural diatomaceous earth contains a small percentage of naturally occurring crystalline silica, which is considered a probable human carcinogen. 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.

#### Starch

May cause eye and skin irritation. May cause respiratory tract irritation. Low hazard for usual industrial handling.

### Target Organs

#### Active Ingredients

Thiamethoxam: Liver, kidney

#### Inert Ingredients

Diatomaceous Earth: Respiratory tract

Starch: None

## **12. ECOLOGICAL INFORMATION**

### Summary of Effects

Thiamethoxam:

Practically non-toxic to fish, invertebrates and birds. Highly toxic to bees.

### Eco-Acute Toxicity

Thiamethoxam: Bees LC50/EC50 0.024 ug/bee  
Invertebrates (Water Flea) LC50/EC50 > 100 ppm  
Fish (Trout) LC50/EC50 > 100 ppm  
Fish (Bluegill) LC50/EC50 > 114 ppm  
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,200 ppm  
Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,200 ppm

### Eco-Chronic Toxicity

Thiamethoxam: Not Available

### Environmental Fate

Thiamethoxam:

No data available for the formulation. The information presented here is for the active ingredient, thiamethoxam. A thorough review of environmental information is not possible in this document.

Not persistent in soil. Stable in water. Moderate mobility in soil. Floats 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

Not regulated by DOT.

B/L Freight Classification

Insecticides, NOIBN, o/t poison

Comments

International Transportation  
(Water): Not regulated.

**15. REGULATORY INFORMATION**

EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

Not Applicable

CERCLA/SARA 302 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: 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: 11/25/1998

Revision Date: 08/27/2003

Replaces: 11/05/2002

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.

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End of MSDS