

**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:	<b>FLAGSHIP 25WG</b>	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):	100-955	Section(s) Revised:	<b>1, 2, 3, 8, 12, 15, 16</b>

**2. HAZARDS IDENTIFICATION**
Health and Environmental

Irritating to eyes and skin. Harmful by inhalation.  
 May form flammable dust-air mixture.

Hazardous Decomposition Products

May 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.

**3. 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	Not Established	6 mg/m <sup>3</sup> TWA **	IARC 3
Crystalline Silica, Quartz	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) **	IARC 1; ACGIH A2
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	3 mg/m <sup>3</sup> TWA ***	No

\*\* recommended by NIOSH

\*\*\* Syngenta Occupational Exposure Limit (OEL)

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

## 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 Applicable	

### 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.

### In Case of Fire

Use appropriate extinguishing media for combustibles in the area. 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 gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride [PVC] or Viton), 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, or P or HE filter.

## 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: 4.1g/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: May decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

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

- Ingestion: Practically Non-Toxic  
Oral (LD50 Rat) : > 5000 mg/kg body weight
- Dermal: Slightly Toxic  
Dermal (LD50 Rat) : > 2000 mg/kg body weight
- Inhalation:

Practically Non-Toxic

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: Developmental: Not teratogenic. Developmental delays at maternally toxic doses.  
Reproductive: No biologically important reproductive effects. Minor testis effects at high doses with no effect on reproduction.

Chronic/Subchronic Toxicity Studies

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

Carcinogenicity

Thiamethoxam: Liver tumors at high doses noted in mice that are not relevant to humans. 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. The amount of crystalline silica in this product is minimal and the potential for overexposure in manufacturing operations is low.

Starch

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

Target Organs

Active Ingredients

Thiamethoxam: Liver, kidney

Inert Ingredients

Diatomaceous Earth: Respiratory tract

Starch: Not Applicable

**12. ECOLOGICAL INFORMATION**

Summary of Effects

Thiamethoxam:

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Eco-Acute Toxicity

Thiamethoxam:

- Fish (Rainbow Trout) 96-hour LC50 > 100 ppm
- Fish (Bluegill Sunfish) 96-hour LC50 > 114 ppm
- Bird (Mallard Duck) LD50 Oral 576 mg/kg
- Invertebrate (Daphnia Magna) 48-hour EC50 > 106 ppm
- Bird (Bobwhite Quail) 8-day dietary LC50 > 5200 ppm
- Bee (Contact) LD50 0.024 ug/bee

Bird (Mallard Duck) 8-day dietary LC50 > 5200 ppm

Green Algae 4-day EC50 > 97 ppm

#### Eco-Chronic Toxicity

Thiamethoxam:

Invertebrate (Water Flea) 21-day LOEC 101 ppm

Fish (Fathead Minnow) LOEC 900 ppm

#### Environmental Fate

Thiamethoxam:

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

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

Ground Transport - NAFTA

Not regulated.

#### B/L Freight Classification

Insecticides, NOI, 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  
Fire 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: 2  
Instability: 0

HMIS Hazard Ratings

Health: 1  
Flammability: 2  
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: 9/8/2000

Revision Date: 7/31/2007

Replaces: 3/31/2005

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.

End of MSDS