



Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** DISARM™ G FUNGICIDE  
**EPA REGISTRATION NUMBER(S):** 66330-380  
**SYNONYM(S):** Fluoxastrobin 0.25% G

<u>COMPANY</u>
Arysta LifeScience North America LLC 15401 Weston Parkway, Suite 150 Cary, NC 27513

<u>EMERGENCY TELEPHONE NUMBERS</u>	
HEALTH EMERGENCY: <b>1-866-303-6952, or 1-651-632-8946</b>	SPILL EMERGENCY: <b>1-800-424-9300, or 1-703-527-3887</b>

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits*	% Weight	% Volume
Fluoxastrobin (Methanone, [2- [[6-(2-chlorophenoxy)-5-fluoro- 4-pyrimidinyl]-oxy]phenyl](5,6- dihydro-1,4,2-dioxazine-3-yl)- ,O-methyloxime,(E)-	361377-29-9	<b>TWA<sup>a</sup></b> OSHA PEL <sup>b</sup> : NA ACGIH TLV <sup>c</sup> : NA NIOSH REL <sup>d</sup> : NA	0.25	NA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

\*Source: *Guide to Occupational Exposure Values 2003*, published by ACGIH

<sup>a</sup>**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

<sup>b</sup>**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

<sup>c</sup>**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

<sup>d</sup>**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.

**SECTION 3: HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

**CAUTION:**

- CAUSES MODERATE EYE IRRITATION
- HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN
- AVOID CONTACT WITH SKIN, EYES OR CLOTHING
- WEAR PROTECTIVE EYE WEAR
- WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING

**Acute Health Hazards**

**Eye:** This product is considered moderately irritating to the eyes.

**Skin:** This product is considered practically non-irritant to the skin.

**Ingestion:** This product is considered practically non-toxic if swallowed.

**Inhalation:** This product is considered practically non-toxic if inhaled.

**Chronic Health Hazards (Including Cancer):** Fluoxastrobin is not a carcinogen.

**Reproductive and Developmental Toxicity:** Fluoxastrobin is not a reproductive or development toxicant.

**SECTION 4: FIRST AID MEASURES**

**Inhalation:** Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**Skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention if irritation persists.

**Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 15 minutes, then continue rinsing eye. Call a physician if irritation persists.

**Ingestion:** Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor for treatment advice.

**Medical conditions aggravated by exposure:** Dust may cause eye/respiratory irritation with coughing.

**Note to Physician:** Therapeutic measures: Basic aid, decontamination, symptomatic treatment.

## SECTION 5: FIRE FIGHTING MEASURES

<b>Flammable Limits in Air (% by volume):</b>		
	<b>Upper:</b>	NA
	<b>Lower:</b>	NA
<b>Flash Point:</b>		
	<b>Method Used:</b>	NDA
<b>Autoignition Temperature:</b>		
<b>LEL/UEL:</b>		
<b>NFPA Hazard Classification:</b>		
	<b>Health:</b>	1
	<b>Flammability:</b>	0
	<b>Reactivity:</b>	0
	<b>Other:</b>	None
<b>Extinguishing Media:</b>		
Sprayed water jet, foam, extinguishing powder, CO <sub>2</sub> , sand.		
<b>Special Fire Fighting Procedures:</b>		
Fight fire in early stages if safe to do so. Wear respiratory protection. In well-ventilated areas, full-face mask with combination filter. In enclosed premises, wear respirator with independent air supply. Contain firefighting water.		
<b>Hazardous Combustion Products:</b>		
In the event of fire, the formation of hydrogen chloride, hydrogen cyanide, hydrogen fluoride, carbon monoxide, and nitrogen oxide must be anticipated.		

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### EMERGENCY PHONE NUMBERS

**Exposure Calls (PROSAR): 1-866-303-6952 or 1-651-632-8946 (International)**

**Spill Calls (CHEMTREC): 1-800-424-9300 or 1-703-527-3887**

Sweep together material and place into containers for later disposal. Avoid inhalation of dust. Keep unnecessary people away. Isolate hazard area and deny entry. Wear personal protective equipment (clothing, appropriate respirator, boots, etc.)

## SECTION 7: HANDLING AND STORAGE

Read and observe all precautions on product label. It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Use in a well ventilated area. Avoid contact with skin and eyes. Do not breathe dust. Store in well ventilated area. Keep container tightly closed. Keep from sunlight. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this product. Stable at normal temperatures and storage conditions on closed original package.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye Protection:** Wear eye protection, goggles.

**Skin Protection:** Wear long-sleeved shirt, long pants, protective gloves for chemicals, shoes and socks. Keep the place of work clean. Avoid contact with product. Keep working clothes separate. Change badly soiled clothing. Wash hands before breaks and at end of work.

**Respiratory/Ventilation Requirements:** NDA

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Gray free flowing granule
<b>Odor:</b>	Characteristic odor
<b>Physical State:</b>	Granule
<b>pH:</b>	5.8 (1%)
<b>Boiling Point:</b>	NDA
<b>Melting Point:</b>	NA
<b>Freezing Point:</b>	NDA
<b>Vapor Pressure:</b>	NA
<b>Vapor Density:</b>	NDA
<b>Bulk Density:</b>	Approximately 47 lb/ft <sup>3</sup>
<b>Specific Gravity:</b>	NDA
<b>Evaporation Rate:</b>	NDA
<b>Solubility in Water:</b>	NA
<b>Percent Solids by Weight:</b>	NDA
<b>Percent Volatile:</b>	NDA
<b>Volatile Organic Compounds:</b>	NDA
<b>Molecular Weight:</b>	NDA
<b>Viscosity:</b>	NA

## SECTION 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable, however may decompose if heated
<b>Hazardous Polymerization:</b>	Product will not undergo polymerization
<b>Flash Point:</b>	NA
<b>Flammable Point:</b>	NA
<b>Auto Ignition:</b>	NA
<b>Incompatibility With Other Materials:</b>	NA
<b>Decomposition Products:</b>	NDA

## SECTION 11: TOXICOLOGICAL INFORMATION

**Acute (information based on Fluoxastrobin Technical):**

**Oral Toxicity:** LD<sub>50</sub> (rat): > 2,500 mg/kg

**Dermal Toxicity:** LD<sub>50</sub> (rat): > 2,000 mg/kg

**Inhalation Toxicity:** LC<sub>50</sub> (rat): > 5 mg/L (4 hr exposure)

**Eye Irritation:** Moderate-irritant (rabbit)

**Skin Irritation:** Non-irritant (rabbit)

**Skin Sensitization:** No skin sensitization (guinea pig) (via the Buehler Test).

**Subchronic:** In subchronic studies with Fluoxastrobin Technical, the NOEL for rat were 1000 ppm (M) and 2000 ppm (F), for mice was not assigned, and for dog 100 ppm. Reduced body weight gain and food intake, calculi in the urethra and kidney, urinary bladder, and urethra, vacuolation in the zona fasciculata in rats. There were no dose related toxicity effects in mice. Reduced net body weight gain and food efficiency in addition to toxicity findings in the liver in dogs.

**Chronic Toxicity:** In the dog chronic study with Fluoxastrobin Technical, the NOEL was 50 ppm. Reduced body weight and hepatocytomegaly and cytoplasmic changes associated with increased serum

liver alkaline phosphatase indicative of cholestasis.

**Carcinogenicity:** No evidence of carcinogenicity.

**Mutagenicity:** Fluoxastrobin Technical is negative in the following genotoxicity assays: *In vitro* bacterial reverse gene mutation, *In vitro* mammalian chromosome aberration in Chinese hamster lung (V79) cells, mammalian cytogenetics-micronucleus assay (mouse).

**Developmental Toxicity:** In the developmental studies with Fluoxastrobin Technical the NOEL for rats were 1000 mg/kg/day (maternal) and 1000 mg/kg/day (developmental) (limit dose). The NOEL for rabbits were 100 mg/kg/day (maternal) based on cold years, transient body weight loss and decreased food consumption, and 400 mg/kg/day (developmental).

**Reproduction:** In the reproduction study with Fluoxastrobin Technical in rats were 1000 ppm (parental) based on decreased pre-mating body weight gain and decrease pre-mating absolute body weight; >10000 ppm (reproductive); 1000 ppm (offspring) based on decrease body weights, delayed preputial separation, and incomplete ossification.

**Neurotoxicity:** No evidence of neurotoxicity.

## SECTION 12: ECOLOGICAL INFORMATION

Based on submitted acute and reproduction data using bobwhite quail, rats, honeybees, and earthworms, Fluoxastrobin is classified as practically non-toxic to terrestrial animals. Fluoxastrobin is classified as practically non-toxic to birds on an acute exposure basis. On an acute basis, Fluoxastrobin is moderately toxic to estuarine/marine fish; highly toxic to freshwater fish and invertebrates; and very highly toxic to estuarine/marine invertebrates.

### Information based on Fluoxastrobin Technical:

#### Aquatic Organism Toxicity:

Trout ( <i>Oncorhynchus mykiss</i> )	96 hr LC <sub>50</sub> = 0.435 mg/L
Carp ( <i>Cyprinus carpio</i> )	96 hr LC <sub>50</sub> = 0.57 mg/L
Bluegill sunfish ( <i>Lepomis macrochirus</i> )	96 hr LC <sub>50</sub> = 0.97 mg/L
Water flea ( <i>D. magna</i> )	48 hr EC <sub>50</sub> = 0.48 mg/L
Mysid ( <i>M. bahia</i> )	96 hr LC <sub>50</sub> = 0.053 mg/L

#### Other Non-Target Organism Toxicity:

Green algae ( <i>Selenastrum capricornutum</i> )(biomass):	72-hour EC <sub>50</sub> = 0.45 mg/L
Green algae ( <i>Selenastrum capricornutum</i> )(growth rate):	72-hour EC <sub>50</sub> = 2.67 mg/L
Bacteria (activated sludge):	EC <sub>50</sub> > 10000 mg/L

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of wastes and empty containers in accordance with local, state and federal regulations, preferably through incineration.

## SECTION 14: TRANSPORT INFORMATION

<b>D.O.T. Shipping Name:</b>	Pesticide, non-regulated
<b>Technical Shipping Name:</b>	NA
<b>Packing Group:</b>	NA
<b>D.O.T. Hazard Class:</b>	NA
<b>U.N/N.A. Number:</b>	NA
<b>Product RQ (lbs):</b>	None
<b>D.O.T. Label:</b>	NA
<b>D.O.T. Placard:</b>	NA
<b>Marine Pollutant:</b>	No

## SECTION 15: REGULATORY INFORMATION

### U.S Federal Regulations

**FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act):** All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**CERCLA (Comprehensive Response Compensation, and Liability Act):** NA

**OSHA (Occupational Safety and Health Administration):** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

**SARA Title III (SUPERFUND Amendments and Reauthorization Act):**

Section 302 (EHS) TPQ: None

Section 304 (EHS) RQ: None

Section 311/312 CATEGORIES

1. Immediate (Acute) Health Effects; **Yes**
2. Delayed (Chronic) Health Effect; **No**
3. Fire Hazard; **No**
4. Sudden Release of Pressure Hazard; **No**
5. Reactivity Hazard; **No**

**TSCA (Toxic Substance Control Act):** This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

**State Regulations:** Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

**SECTION 16: OTHER INFORMATION**

<b>Reason for issue:</b>	Changes to Product Identification (Section 1), Emergency Overview (Section 3), First Aid Measures (Section 4), Physical Properties (Section 9), and Toxicological Information (Section 11)
<b>Prepared by:</b>	Ashley R. Brown
<b>Issue date:</b>	09/24/08
<b>Supersedes date:</b>	01/24/08
<b>MSDS number:</b>	00353

The information in this MSDS is based on data available to us as of the issue date given herein, and believed to be correct. Contact Arysta LifeScience North America LLC at (919) 678-4900 to determine if additional data and information have become available since the issue date.

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