

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : DISARM® G FUNGICIDE
 Other means of identification : EPA Reg. No. 66330-380

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Fungicide

1.3. Details of the supplier of the safety data sheet

Arysta LifeScience North America LLC
 15401 Weston Parkway, Suite 150
 Cary, NC 27513 – USA

1.4. Emergency telephone number

Emergency number : Exposure Calls (PROSAR): +1-866-303-6952 or +1-651-603-3432 (international)
 Spill Calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Eye Irrit. 2B H320
 Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : H320 - Causes eye irritation
 Precautionary statements (GHS-US) : P264 - Wash hands thoroughly after handling
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% (w/w)	GHS-US classification
ethyl lactate	(CAS No) 97-64-3	0.1 – 3	Flam. Liq. 3, H226 Eye Dam. 1, H318 STOT SE 3, H335
Fluoxastrobin (Main constituent)	(CAS No) 361377-29-9	0.1 – 1	Acute Tox. 4 (Inhalation:dust,mist), H332 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
 First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

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First-aid measures after skin contact	: Wash with plenty of soap and water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after eye contact	: Causes eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Explosion hazard	: Dust may form explosive mixture in air.
Reactivity	: No dangerous reactions known.

5.3. Advice for firefighters

Firefighting instructions	: Do not allow run-off from fire fighting to enter drains or water courses. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid creating or spreading dust. Avoid contact with skin and eyes.
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6.1.1. For non-emergency personnel

Protective equipment	: Chemical goggles or safety glasses.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Chemical goggles or safety glasses.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Absorb and/or contain spill with inert material, then place in suitable container. Avoid generating dust.
Methods for cleaning up	: Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Take up in non-combustible absorbent material and shove into container for disposal. Minimize generation of dust.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not eat, drink or smoke when using this product.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Do not store near food, foodstuffs, drugs, or potable water supplies. Store in a dry place. Keep container tightly closed and in a well-ventilated place.
Incompatible products	: None known.

7.3. Specific end use(s)

Fungicide.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DISARM [®] G FUNGICIDE	
ACGIH	Not applicable
OSHA	Not applicable
Fluoxastrobin (361377-29-9)	
ACGIH	Not applicable
OSHA	Not applicable
ethyl lactate (97-64-3)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls	: Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Either local exhaust or general room ventilation is usually required.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear dust impervious gloves.
Eye protection	: In case of dust production: protective goggles.
Respiratory protection	: Wear appropriate mask. Use an approved respirator equipped with oil/mist cartridges.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granules.
Colour	: Gray
Odour	: mild characteristic
Odour threshold	: No data available
pH	: 6.07 @ 25 °C
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: Dust may form explosive mixture in air.
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: 0.8105
Relative vapour density at 20 °C	: No data available
Density	: 0.8105 g/ml @ 25 °C
Solubility	: Water: Solubility in water of component(s) of the mixture : • Fluoxastrobin: 43 mg/l @ 20 °C pH 4; 2.29 mg/l @ 20 °C pH 7; 2.27 mg/l @ 20 °C pH 9
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Ignition sources when dusting occurs. Avoid creating or spreading dust.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Carbon monoxide. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

DISARM® G FUNGICIDE	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

Fluoxastrobin (361377-29-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	4.9 mg/l/4h
ATE US (vapours)	4.900 mg/l/4h
ATE US (dust,mist)	4.900 mg/l/4h

ethyl lactate (97-64-3)	
LD50 oral rat	> 4090 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5400 mg/m³

Skin corrosion/irritation : Not classified
(Non-irritating to skin in rabbits.)

Serious eye damage/irritation : Causes eye irritation.
(Irritating to rabbits on ocular application)

Respiratory or skin sensitisation : Not classified
(No sensitizing reaction was observed for guinea pigs)

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Fluoxastrobin (361377-29-9)	
NOAEL (oral, rat, 90 days)	1.5 mg/kg bodyweight/day liver effects

Aspiration hazard : Not classified

Symptoms/injuries after eye contact : Causes eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

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Fluoxastrobin (361377-29-9)	
LC50 fish 1	0.435 mg/l 96 h Oncorhynchus mykiss
LC50 other aquatic organisms 1	0.053 mg/l 96 h M. bahia
EC50 Daphnia 1	0.48 mg/l 48 h
LC50 fish 2	0.57 mg/l 96 h Cyprinus carpio ; 0.97 mg/l 96 h Lepomis macrochirus

12.2. Persistence and degradability

Fluoxastrobin (361377-29-9)	
Persistence and degradability	Not rapidly degradable.
ethyl lactate (97-64-3)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Fluoxastrobin (361377-29-9)	
Bioconcentration factor (BCF REACH)	52.1
Log Pow	2.86 @ 20 °C
Bioaccumulative potential	Does not bioaccumulate significantly.

12.4. Mobility in soil

Fluoxastrobin (361377-29-9)	
Ecology - soil	Slightly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Disposal via incineration is recommended.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not considered a dangerous good for transport regulations

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

IMDG

Transport hazard class(es) (IMDG) : Not applicable

Air transport

IATA

Transport hazard class(es) (IATA) : Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Fluoxastrobin (361377-29-9)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
ethyl lactate (97-64-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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15.2. International regulations

CANADA

Fluoxastrobin (361377-29-9)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

Fluoxastrobin (361377-29-9)

Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

ethyl lactate (97-64-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aquatic Chronic 3 H412

Full text of classification categories and H statements : see section 16

National regulations

Fluoxastrobin (361377-29-9)

Not listed on the Canadian Non-Domestic Substances List (NDSL).

15.3. US State regulations

ethyl lactate (97-64-3)

U.S. - New Jersey - Right to Know Hazardous Substance List

15.4. US EPA - FIFRA Regulations

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word (FIFRA)	: CAUTION.
Hazard statements (FIFRA)	: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation
Environmental hazards	: This pesticide is toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. The active ingredient in this product can be persistent for several months or longer. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark, or other sensitive areas that may be exposed to spray drift. Do not contaminate water when disposing of equipment washwater or rinsate.
Physical or Chemical hazards	: Combustible dust.

SECTION 16: Other information

Indication of changes	: Composition/information on ingredients.
Revision date	: 09/28/2015
Data sources	: European Chemicals Agency (ECHA) Registered Substances list. Accessed at http://echa.europa.eu/ . Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html .

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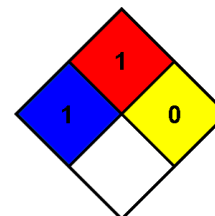
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Abbreviations and acronyms	: ACGIH (American Conference of Government Industrial Hygienists). ATE: Acute Toxicity Estimate. CAS (Chemical Abstracts Service) number. CLP: Classification, Labelling, Packaging. EC50: Environmental Concentration associated with a response by 50% of the test population. GHS: Globally Harmonized System (of Classification and Labeling of Chemicals). LD50: Lethal Dose for 50% of the test population. OSHA: Occupational Safety & Health Administration. STEL: Short Term Exposure Limits. TSCA: Toxic Substances Control Act. TWA: Time Weight Average.
Other information	: None.

Full text of H-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2B	Serious eye damage/eye irritation, Category 2B
Flam. Liq. 3	Flammable liquids, Category 3
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour
H318	Causes serious eye damage
H320	Causes eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard	: 1 - Must be preheated before ignition can occur.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Redstone SDS US GHS for Arysta

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product