

# SAFETY DATA SHEET



## SIGNATURE™ XTRA STRESSGARD®

Version 2.0 / USA  
102000029598

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Revision Date: 09/29/2017  
Print Date: 09/30/2017

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

**Trade name** SIGNATURE™ XTRA STRESSGARD®

**Product code (UVP)** 81691088

**SDS Number** 102000029598

**EPA Registration No.** 432-1541

#### Relevant identified uses of the substance or mixture and uses advised against

**Use** Fungicide

**Restrictions on use** See product label for restrictions.

#### Information on supplier

**Supplier** Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

**Responsible Department** Email: SDSINFO.BCS-NA@bayer.com

#### Emergency telephone no.

**Emergency Telephone Number (24hr/ 7 days)** 1-800-334-7577

**Product Information Telephone Number** 1-800-331-2867

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification in accordance with regulation HCS 29CFR §1910.1200

Carcinogenicity(Inhalation): Category 1B

Eye irritation: Category 2B

#### Labelling in accordance with regulation HCS 29CFR §1910.1200



**Signal word:** Danger

#### Hazard statements

May cause cancer by inhalation.

Causes eye irritation.

#### Precautionary statements

Wear protective gloves/ protective clothing/ eye protection/ face protection.

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Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wash thoroughly after handling.  
IF exposed or concerned: Get medical advice/ attention.  
IF IN EYES: 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.  
Store locked up.  
Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.  
No health hazards not otherwise classified.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fosetyl-Aluminium	39148-24-8	60.0
Sodium diisopropylphenyl sulphate	1322-93-6	6.54
Formic acid	64-18-6	2.0
Crystalline quartz (respirable)	14808-60-7	0.35

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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 physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

**Most important symptoms and effects, both acute and delayed**

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**Symptoms** The following symptoms may occur:, Skin, eye and mucous membrane irritation

**Indication of any immediate medical attention and special treatment needed**

**Treatment** Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

**Special hazards arising from the substance or mixture** In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Oxides of phosphorus

### Advice for firefighters

**Special protective equipment for firefighters** Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**Further information** Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

**Flash point** Not applicable

**Auto-ignition temperature** No data available

**Lower explosion limit** Not applicable

**Upper explosion limit** Not applicable

**Explosivity** Not explosive  
Regulation (EC) No. 440/2008, Annex, A.14

**Dust explosion class** No data available

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

### Methods and materials for containment and cleaning up

**Methods for cleaning up** Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

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**Additional advice** Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

**Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

### Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fosetyl-Aluminium (Respirable fraction.)	39148-24-8	1 mg/m <sup>3</sup> (TWA)	02 2012	ACGIH
Fosetyl-Aluminium	39148-24-8	5 mg/m <sup>3</sup> (TWA)		OES BCS*
Formic acid	64-18-6	9 mg/m <sup>3</sup> /5 ppm (TWA)	1989	OSHA Z1A
Formic acid	64-18-6	5 ppm (TWA)	02 2012	ACGIH
Formic acid	64-18-6	10 ppm (STEL)	02 2012	ACGIH
Formic acid	64-18-6	9 mg/m <sup>3</sup> /5 ppm (REL)	2010	NIOSH
Formic acid	64-18-6	9 mg/m <sup>3</sup> /5 ppm	02 2006	OSHA Z1

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		(PEL)		
Formic acid	64-18-6	9 mg/m3/5 ppm (TWA)	06 2008	TN OEL
Formic acid	64-18-6	19 mg/m3/10 ppm (STEL)	08 2010	US CA OEL
Formic acid	64-18-6	9 mg/m3/5 ppm (TWA PEL)	08 2010	US CA OEL
Formic acid	64-18-6	5 ppm (TLV)		OES BCS*
Crystalline quartz (respirable)  (Respirable fraction.)	14808-60-7	0.025 mg/m3 (TWA)	02 2012	ACGIH
Crystalline quartz (respirable)  (Respirable dust.)	14808-60-7	0.05 mg/m3 (REL)	2010	NIOSH
Crystalline quartz (respirable)	14808-60-7	0.05 mg/m3 (TWA)	03 2016	OSHA
Crystalline quartz (respirable)	14808-60-7	0.025 mg/m3 (OSHA_ACT)	03 2016	OSHA
Crystalline quartz (respirable)  (Respirable dust.)	14808-60-7	0.05 mg/m3 (PEL)	03 2016	OSHA Z1
Crystalline quartz (respirable)  (Respirable dust.)	14808-60-7	0.1 mg/m3 (TWA)	06 2008	TN OEL
Crystalline quartz (respirable)  (Respirable dust.)	14808-60-7	0.1 mg/m3 (TWA PEL)	08 2010	US CA OEL
Crystalline quartz (respirable)  (Total dust.)	14808-60-7	0.3 mg/m3 (TWA PEL)	08 2010	US CA OEL
Crystalline quartz (respirable)  (Respirable.)	14808-60-7	2.4millions of particles per cubic foot of air (TWA)	2000	Z3
Crystalline quartz (respirable)  (Respirable.)	14808-60-7	0.1 mg/m3 (TWA)	2000	Z3

\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

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### Exposure controls

#### Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

<b>Respiratory protection</b>	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
<b>Hand protection</b>	Chemical resistant nitrile rubber gloves
<b>Eye protection</b>	Safety glasses with side-shields
<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	green
<b>Physical State</b>	water-dispersible granules
<b>Odor</b>	slight acid-like
<b>Odour Threshold</b>	No data available
<b>pH</b>	3.15 at 10 % 3.66 at 1 %
<b>Vapor Pressure</b>	No data available
<b>Vapor Density (Air = 1)</b>	No data available
<b>Bulk density</b>	512 - 705 kg/m <sup>3</sup> (loose)
<b>Evaporation rate</b>	Not applicable
<b>Boiling Point</b>	Not applicable
<b>Melting / Freezing Point</b>	Not applicable
<b>Water solubility</b>	dispersible
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	Not applicable

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<b>Upper explosion limit</b>	Not applicable
<b>Explosivity</b>	Not explosive Regulation (EC) No. 440/2008, Annex, A.14
<b>Dust explosion class</b>	No data available
<b>Other information</b>	Further safety related physical-chemical data are not known.

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

<b>Thermal decomposition</b>	No data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Exposure to moisture.
<b>Incompatible materials</b>	Strong oxidizing agents, Strong acids, Strong bases
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

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## SECTION 11: TOXICOLOGICAL INFORMATION

**Exposure routes** Eye contact, Skin contact, Ingestion, Inhalation

### Immediate Effects

**Eye** Moderate eye irritation may occur.

**Ingestion** Harmful if swallowed.

### Information on toxicological effects

**Acute oral toxicity** LD50 (female Rat) 5,000 mg/kg

**Acute inhalation toxicity** LC50 (male/female combined Rat) > 5.22 mg/l  
Exposure time: 4 h

**Acute dermal toxicity** LD50 (male/female combined Rat) > 5,000 mg/kg

**Skin irritation** No skin irritation (Rabbit)

**Eye irritation** Moderate eye irritation. (Rabbit)

**Sensitisation** Non-sensitizing. (Guinea pig)

### Assessment STOT Specific target organ toxicity – repeated exposure

Fosetyl Aluminium did not cause specific target organ toxicity in experimental animal studies.

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### Assessment mutagenicity

Fosetyl Aluminium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

Fosetyl Aluminium was not carcinogenic in lifetime feeding studies in rats and mice.

### ACGIH

Fosetyl-Aluminium	39148-24-8	Group A4
Crystalline quartz (respirable)	14808-60-7	Group A2

### NTP

Crystalline quartz (respirable)	14808-60-7
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### IARC

Crystalline quartz (respirable)	14808-60-7	Overall evaluation: 1
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### OSHA

None.

### Assessment toxicity to reproduction

Fosetyl Aluminium did not cause reproductive toxicity in a two-generation study in rats.

### Assessment developmental toxicity

Fosetyl Aluminium did not cause developmental toxicity in rats and rabbits.

### Further information

Only acute toxicity studies have been performed on the formulated product.  
The non-acute information pertains to the active ingredient(s).

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## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) > 500 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient fosetyl aluminium.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) > 1,000 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient fosetyl aluminium.
<b>Toxicity to aquatic plants</b>	ErC50 (Desmodesmus subspicatus (green algae)) 43.5 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient fosetyl aluminium.
<b>Biodegradability</b>	Fosetyl Aluminium: rapidly biodegradable
<b>Koc</b>	Fosetyl Aluminium: Koc: 0.1
<b>Bioaccumulation</b>	Fosetyl Aluminium:



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	Does not bioaccumulate.
<b>Mobility in soil</b>	Fosetyl Aluminium: Highly mobile in soils
<b>Environmental precautions</b>	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label.

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product</b>	Dispose in accordance with all local, state/provincial and federal regulations.
<b>Contaminated packaging</b>	Do not re-use empty containers. Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

## SECTION 14: TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

## SECTION 15: REGULATORY INFORMATION

<b>EPA Registration No.</b>	432-1541
<b>US Federal Regulations</b>	
<b>TSCA list</b>	
Sodium diisopropylnaphthalene sulphonate	1322-93-6
Formic acid	64-18-6
Crystalline quartz (respirable)	14808-60-7
<b>US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)</b>	
None.	
<b>SARA Title III - Section 302 - Notification and Information</b>	
None.	
<b>SARA Title III - Section 313 - Toxic Chemical Release Reporting</b>	
Formic acid	64-18-6
	10,000lbs

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### US States Regulatory Reporting

#### CA Prop65

This product contains a chemical known to the State of California to cause cancer.  
Crystalline quartz (respirable) 14808-60-7

### US State Right-To-Know Ingredients

Formic acid	64-18-6	CA, CT, IL, MN, NJ, RI
Crystalline quartz (respirable)	14808-60-7	MN, RI

### Canadian Regulations

#### Canadian Domestic Substance List

None.

### Environmental

#### CERCLA

Formic acid 64-18-6

#### Clean Water Section 307 Priority Pollutants

None.

#### Safe Drinking Water Act Maximum Contaminant Levels

None.

### EPA/FIFRA Information:

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

#### Hazard statements:

Harmful if swallowed.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.

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## SECTION 16: OTHER INFORMATION

### Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens

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OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

### NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Instability - 0      Others - none

### HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1      Flammability - 1      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason for Revision:** The following sections have been revised: Section 2: Hazards Identification. Section 11: Toxicological Information. Section 12: Ecological information.

**Revision Date:** 09/29/2017

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