

SAFETY DATA SHEET



SIGNATURE™ XTRA STRESSGARD®

Version 1.0 / CDN
102000029598

1/11
Revision Date: 09/29/2017
Print Date: 10/02/2017

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
PCP Registration No. 32800

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 CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada
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 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations

Carcinogenicity(Inhalation): Category 1B
Eye irritation: Category 2B

Labelling in accordance with Part 3 of the Hazardous Products Regulations



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 sulphonate | 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

| | |
|-----------------------|---|
| General advice | When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. |
| 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 physician or poison control center immediately. |
| Skin contact | 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. |
| Eye contact | 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. |
| Ingestion | 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.

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

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.) | 39148-24-8 | 1 mg/m ³ (TWA) | 09 2011 | CAD BC OEL |
| Fosetyl-Aluminium (Respirable fraction.) | 39148-24-8 | 1 mg/m ³ (TWA) | 03 2011 | CAD MB OEL |
| Fosetyl-Aluminium (Respirable fraction.) | 39148-24-8 | 1 mg/m ³ (TWA) | 11 2010 | CAD ON OEL |
| Fosetyl-Aluminium (Dust.) | 39148-24-8 | 10 mg/m ³ (8 HR ACL) | 05 2009 | CAD SK OEL |
| Fosetyl-Aluminium (Dust.) | 39148-24-8 | 20 mg/m ³ (15 MIN ACL) | 05 2009 | CAD SK OEL |

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| | | | | |
|---|------------|--|---------|---------------|
| Fosetyl-Aluminium | 39148-24-8 | 5 mg/m ³ (TWA) | | OES BCS* |
| Formic acid | 64-18-6 | 19 mg/m ³ /10 ppm (STEL) | 07 2009 | CAD AB OEL |
| Formic acid | 64-18-6 | 9.4 mg/m ³ /5 ppm (TWA) | 07 2009 | CAD AB OEL |
| Formic acid | 64-18-6 | 10 ppm (STEL) | 09 2011 | CAD BC OEL |
| Formic acid | 64-18-6 | 5 ppm (TWA) | 09 2011 | CAD BC OEL |
| Formic acid | 64-18-6 | 5 ppm (TWA) | 03 2011 | CAD MB OEL |
| Formic acid | 64-18-6 | 10 ppm (STEL) | 03 2011 | CAD MB OEL |
| Formic acid | 64-18-6 | 10 ppm (STEL) | 11 2010 | CAD ON OEL |
| Formic acid | 64-18-6 | 5 ppm (TWA) | 11 2010 | CAD ON OEL |
| Formic acid | 64-18-6 | 5 ppm (8 HR ACL) | 05 2009 | CAD SK OEL |
| Formic acid | 64-18-6 | 10 ppm (15 MIN ACL) | 05 2009 | CAD SK OEL |
| Formic acid | 64-18-6 | 9.4 mg/m ³ /5 ppm (TWA) | 11 2011 | OEL (QUE) |
| Formic acid | 64-18-6 | 19 mg/m ³ /10 ppm (STEL) | 11 2011 | OEL (QUE) |
| Formic acid | 64-18-6 | 5 ppm (TLV) | | OES BCS* |
| Crystalline quartz (respirable) (Respirable particles.) | 14808-60-7 | 0.025 mg/m ³ (TWA) | 07 2009 | CAD AB OEL |
| Crystalline quartz (respirable) (Respirable fraction.) | 14808-60-7 | 0.025 mg/m ³ (TWA) | 09 2011 | CAD BC OEL |
| Crystalline quartz (respirable) | 14808-60-7 | 0.025 mg/m ³ (TWA) | 03 2011 | CAD MB OEL |

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| | | | | |
|---------------------------------|------------|-----------------------------------|---------|------------|
| (Respirable fraction.) | | | | |
| Crystalline quartz (respirable) | 14808-60-7 | 0.10 mg/m ³ (TWA) | 06 2015 | CAD ON OEL |
| (Respirable fraction.) | | | | |
| Crystalline quartz (respirable) | 14808-60-7 | 0.05 mg/m ³ (8 HR ACL) | 05 2009 | CAD SK OEL |
| (Respirable fraction.) | | | | |
| Crystalline quartz (respirable) | 14808-60-7 | 0.1 mg/m ³ (TWA) | 11 2011 | OEL (QUE) |
| (Respirable dust.) | | | | |

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

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.

Respiratory protection

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.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

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

| | |
|-------------------------|-------------------------------------|
| Appearance | green |
| Physical State | water-dispersible granules |
| Odor | slight acid-like |
| Odour Threshold | No data available |
| pH | 3.15 at 10 % 3.66 at 1 % |
| Vapor Pressure | No data available |
| Vapor Density (Air = 1) | No data available |
| Bulk density | 512 - 705 kg/m ³ (loose) |
| Evaporation rate | Not applicable |

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| | |
|----------------------------------|--|
| Boiling Point | Not applicable |
| Melting / Freezing Point | Not applicable |
| Water solubility | dispersible |
| Decomposition temperature | No data available |
| Viscosity | Not applicable |
| 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 |
| Other information | Further safety related physical-chemical data are not known. |

SECTION 10: STABILITY AND REACTIVITY

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

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|--------------------------|--|
| Exposure routes | Eye contact, Skin contact, Ingestion, Inhalation |
| Immediate Effects | |
| Eye | Moderate eye irritation may occur. |
| Ingestion | Harmful if swallowed. |

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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.

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 |
|---------------------------------|------------|

IARC

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

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

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

| | |
|-------------------------|--|
| Toxicity to fish | LC50 (Oncorhynchus mykiss (rainbow trout)) > 500 mg/l Exposure time: 96 h |
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|--|--|
| | The value mentioned relates to the active ingredient fosetyl aluminium. |
| Toxicity to aquatic invertebrates | EC50 (Daphnia magna (Water flea)) > 1,000 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient fosetyl aluminium. |
| Toxicity to aquatic plants | 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. |
| Biodegradability | Fosetyl Aluminium: rapidly biodegradable |
| Koc | Fosetyl Aluminium: Koc: 0.1 |
| Bioaccumulation | Fosetyl Aluminium: Does not bioaccumulate. |
| Mobility in soil | Fosetyl Aluminium: Highly mobile in soils |
| Environmental precautions | 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

| | |
|-------------------------------|--|
| Product | Dispose in accordance with all local, state/provincial and federal regulations. |
| Contaminated packaging | 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. |

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

PCP Registration No. 32800

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US Federal Regulations

TSCA list

None.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

| | | |
|-------------|---------|-----------|
| Formic acid | 64-18-6 | 10,000lbs |
|-------------|---------|-----------|

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

| | |
|--|------------|
| Sodium diisopropylnaphthalene sulphonate | 1322-93-6 |
| Formic acid | 64-18-6 |
| Crystalline quartz (respirable) | 14808-60-7 |

Environmental

CERCLA

| | |
|-------------|---------|
| Formic acid | 64-18-6 |
|-------------|---------|

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

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: New Safety Data Sheet.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 09/29/2017

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