

SAFETY DATA SHEET



TARTAN® STRESSGARD®

Version 3.0 / USA
102000013748

1/12
Revision Date: 05/18/2021
Print Date: 06/23/2023

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

Product identifier

Trade name TARTAN® STRESSGARD®
Product code (UVP) 05810050
SDS Number 102000013748
EPA Registration No. 101563-113

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 Environmental Science U.S. LLC.
5000 Centregreen Way, Suite 400
Cary, NC 27513
USA

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-424-9300
Product Information Telephone Number 1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

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

Acute toxicity(Inhalation): Category 4
Reproductive toxicity: Effects on or via lactation

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



|| **Signal word:** Warning

|| **Hazard statements**

|| Harmful if inhaled.
|| May cause harm to breast-fed children.

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Precautionary statements

Use only outdoors or in a well-ventilated area.
Do not breathe dust or mist.
Obtain special instructions before use.
Avoid contact during pregnancy/ while nursing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.

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
Triadimefon	43121-43-3	20.86
Trifloxystrobin	141517-21-7	4.17
Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt	68425-94-5	1.0

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

Symptoms To date no symptoms are known.

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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.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Dry chemical

Unsuitable High volume water jet

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

In the event of fire the following may be released: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Hydrogen chloride (HCl)

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 93.3 °C

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity 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 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. 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.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

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. 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. Keep away from direct sunlight. Protect from freezing.

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
Triadimefon	43121-43-3	0.7 mg/m ³ (SK-SEN)		OES BCS*
Trifloxystrobin	141517-21-7	2.7 mg/m ³ (SK-SEN)		OES BCS*

*OES BCS: 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

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based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
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

Information on basic physical and chemical properties

Form	suspension, viscous
Colour	green
Odour	slight
Odour Threshold	No data available
pH	6.5 - 7.5 (10 %) (23 °C) aqueous suspension
Melting point/range	No data available
Boiling Point	No data available
Flash point	93.3 °C
Flammability	No data available
Auto-ignition temperature	No data available
Thermal decomposition	No data available
Minimum ignition energy	No data available
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available

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Density	1.15 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Trifloxystrobin: log Pow: 4.5 (25 °C)
Viscosity, dynamic	600 - 950 mPa.s
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight. freezing
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Ingestion, Eye contact, Skin contact
Immediate Effects	
Eye	May cause eye irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (female Rat) 3,129 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 2.07 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. highest concentration tested No deaths

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

Skin corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye irritation Mild eye irritation. (Rabbit)

Respiratory or skin sensitisation Skin: Non-sensitizing. (Guinea pig)
OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure

Triadimefon: Based on available data, the classification criteria are not met.
Trifloxystrobin: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Triadimefon did not cause specific target organ toxicity in experimental animal studies.
Trifloxystrobin did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Triadimefon was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Triadimefon was not carcinogenic in a lifetime feeding study in rats. Triadimefon caused an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism that triggers these tumours is not relevant to humans.
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Triadimefon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. Triadimefon caused reduced fertility, a reduced pup survival.
Trifloxystrobin caused reduced body weight development in offspring during lactation only at doses also producing systemic toxicity in adult rats.

Assessment developmental toxicity

Triadimefon caused developmental toxicity in only at dose levels toxic to the dams. Triadimefon caused an increased incidence of non-specific malformations.
Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

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Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

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

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.015 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient trifloxystrobin.

LC50 (Oncorhynchus mykiss (rainbow trout)) 4.08 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient triadimefon.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 0.016 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient trifloxystrobin.



LC50 (Mysidopsis bahia (mysid shrimp)) 0.00862 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient trifloxystrobin.

EC50 (Daphnia magna (Water flea)) 7.16 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient triadimefon.



Toxicity to aquatic plants

EC10 (Desmodesmus subspicatus (green algae)) 0.0025 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient trifloxystrobin.

IC50 (Raphidocelis subcapitata (freshwater green alga)) 2.01 mg/l
Growth rate; Exposure time: 120 h
The value mentioned relates to the active ingredient triadimefon.

Biodegradability

Triadimefon:
Not rapidly biodegradable
Trifloxystrobin:
Not rapidly biodegradable

Koc

Triadimefon: Koc: 150 - 510
Trifloxystrobin: Koc: 2377

Bioaccumulation

Triadimefon: Bioconcentration factor (BCF) 31
Does not bioaccumulate.
Trifloxystrobin: Bioconcentration factor (BCF) 431

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	Does not bioaccumulate.
Mobility in soil	Triadimefon: Moderately mobile in soils Trifloxystrobin: Slightly mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Triadimefon: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Trifloxystrobin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Additional ecological information	No other effects to be mentioned.
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. Do not apply when weather conditions favor runoff or drift. 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. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.
RCRA Information	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

49CFR	Not dangerous goods / not hazardous material
IMDG	
UN number	3082

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Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION)

IATA

UN number 3082
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: COMPOUNDS, TREE OR WEEDKILLING, N.O.I., other than poison; HAVING A DENSITY OF GREATER THAN 20 LBS. PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 101563-113

US Federal Regulations

TSCA list

Water 7732-18-5
Glycerine 56-81-5
C.I. Pigment Green 7 1328-53-6
Polyethylene-polypropylene copolymer 9003-11-6
Sodium lignosulphonate 8061-51-6
Naphthalene and alkyl naphthalene 68425-94-5
sulphonic acids formaldehyde condensate, sodium salt

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

No export notification needs to be made.

SARA Title III - Section 302 - Notification and Information

Not applicable.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Yes

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

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WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Triadimefon	43121-43-3	Developmental toxin.
Triadimefon	43121-43-3	Female reproductive toxin.
Triadimefon	43121-43-3	Male reproductive toxin.

US State Right-To-Know Ingredients

Triadimefon	43121-43-3	NJ
Glycerine	56-81-5	MN, RI
C.I. Pigment Green 7	1328-53-6	CT, IL, MI, NJ
Pyrogenic (fumed) amorphous silica	112945-52-5	CA, CT, MN

Environmental

CERCLA

Yes

C.I. Pigment Green 7 1328-53-6

Included in the regulation but with no data values. See regulation for further details

Clean Water Section 307(a)(1)

Yes

C.I. Pigment Green 7 1328-53-6

Safe Drinking Water Act Maximum Contaminant Levels

Yes

C.I. Pigment Green 7 1328-53-6

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.
Causes moderate eye irritation.

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

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IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
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 - 2 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 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 11: Toxicological Information. Section 12. Ecological information. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

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