



DELARO™ 325 SC FUNGICIDE

Version 1.0 / USA
102000010777

1/11
Revision Date: 11/11/2015
Print Date: 04/25/2017

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

Product identifier

Trade name DELARO™ 325 SC FUNGICIDE

Product code (UVP) 05907454, 81684685

SDS Number 102000010777

EPA Registration No. 264-1055

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
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 1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Skin sensitisation: Category 1



Signal word: Warning

Hazard statements

May cause an allergic skin reaction.

Precautionary statements

Avoid breathing mist/ vapours.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves.

IF ON SKIN: Wash with plenty of water/soap.

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If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local regulation.

Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Trifloxystrobin	141517-21-7	13.7
Prothioconazole	178928-70-6	16.0
Fatty alcohol polyglycol ether	61791-13-7	7.5
1,2-Propanediol	57-55-6	10.0

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. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed**Symptoms** No symptoms known or expected.**Indication of any immediate medical attention and special treatment needed****Treatment** There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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Print Date: 04/25/2017**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: Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Sulphur oxides, Nitrogen oxides (NOx)**Advice for firefighters****Special protective equipment for fire-fighters** In the event of fire and/or explosion do not breathe fumes. 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** > 100 °C
No flash point - Determination conducted up to the boiling point.**Autoignition temperature** 385 °C / 725 °F**Lower explosion limit** no data available**Upper explosion limit** no data available**Explosivity** Not explosive
92/69/EEC, A.14 / OECD 113**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.**Additional advice** Use personal protective equipment. 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.

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Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE**Precautions for safe handling****Advice on safe handling** Use only in area provided with appropriate exhaust ventilation. For personal protection see section 8.**Advice on protection against fire and explosion** No special precautions required.**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).**Conditions for safe storage, including any incompatibilities****Requirements for storage areas and containers** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight.**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
Trifloxystrobin	141517-21-7	2.7 mg/m ³ (TWA)		OES BCS*
Prothioconazole	178928-70-6	5ug/m ³ (AN ESL)	07 2011	TX ESL
Prothioconazole	178928-70-6	50ug/m ³ (ST ESL)	07 2011	TX ESL
Prothioconazole	178928-70-6	1.4 mg/m ³ (SK-ABS)		OES BCS*
1,2-Propanediol	57-55-6	50ppb (AN ESL)	03 2014	TX ESL
1,2-Propanediol	57-55-6	100ug/m ³ (AN ESL)	03 2014	TX ESL
1,2-Propanediol	57-55-6	1000ug/m ³ (ST ESL)	03 2014	TX ESL
1,2-Propanediol	57-55-6	500ppb (ST ESL)	03 2014	TX ESL
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m ³ (TWA)	2010	WEEL

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*OES BCS: Internal Bayer CropScience "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	Goggles
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	white to beige
Physical State	suspension
Odor	weak characteristic
Odour Threshold	no data available
pH	5.5 - 7.0 at 100 % (23 °C)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.10 g/cm ³ at 20 °C
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	dispersible
Minimum Ignition Energy	not applicable
Decomposition temperature	no data available
Partition coefficient: n-octanol/water	not applicable
Viscosity	350 - 500 mPa.s at 20 °C Velocity gradient 20 /s

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Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Autoignition temperature	385 °C / 725 °F
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
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 hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	no data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Ingestion, Inhalation, Skin contact
Immediate Effects	
Eye	Moderate eye irritation.
Skin	May cause slight irritation. Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (rat) \geq 5,000 mg/kg
Acute inhalation toxicity	LC50 (rat) > 2.189 mg/l Exposure time: 4 h Highest attainable concentration.



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Acute dermal toxicity	LD50 (rat) > 4,000 mg/kg
Skin irritation	No skin irritation (rabbit)
Eye irritation	Slight irritation (rabbit)
Sensitisation	Sensitising (guinea pig) OECD Test Guideline 406, Magnusson & Kligman test

Assessment repeated dose toxicity

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

Assessment mutagenicity

Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.

Prothioconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Prothioconazole is related to parental toxicity.

Assessment developmental toxicity

Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

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

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.125 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.126 mg/l Exposure time: 48 h
Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 0.68 mg/l Growth rate; Exposure time: 72 h EC50 (Skeletonema costatum) 0.046 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole.
Biodegradability	Trifloxystrobin: not rapidly biodegradable Prothioconazole: not rapidly biodegradable
Koc	Trifloxystrobin: Koc: 2377 Prothioconazole: Koc: 1765
Bioaccumulation	Trifloxystrobin: Bioconcentration factor (BCF) 431 Does not bioaccumulate. Prothioconazole: Bioconcentration factor (BCF) 19 Does not bioaccumulate.
Mobility in soil	Trifloxystrobin: Slightly mobile in soils Prothioconazole: Slightly mobile in soils
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.

SECTION 13: DISPOSAL CONSIDERATIONS**Waste treatment methods**

Product It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.

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Contaminated packaging	Do not re-use empty containers. 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
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN, PROTHIOCONAZOLE 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, PROTHIOCONAZOLE 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.

SECTION 15: REGULATORY INFORMATION

EPA Registration No.	264-1055
US Federal Regulations	
TSCA list	
Fatty alcohol polyglycol ether	61791-13-7
1,2-Propanediol	57-55-6
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)	
None.	



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SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

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

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

US State Right-To-Know Ingredients

1,2-Propanediol	57-55-6	MN
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Canadian Regulations

Canadian Domestic Substance List

None.

Environmental

CERCLA

None.

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: Moderate eye irritation.
Harmful if swallowed, inhaled or absorbed through the skin.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Avoid contact with skin, eyes and clothing.
Avoid inhalation of vapour or mist.
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove and wash contaminated clothing before re-use.

SECTION 16: OTHER INFORMATION



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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
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: New Safety Data Sheet.

Revision Date: 11/11/2015

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