

SAFETY DATA SHEET
Topguard Fungicide Specialty Crops

SDS # : FO002249-2-A
Revision date: 2017-02-24
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Topguard Fungicide Specialty Crops

Other means of identification

Product Code(s) FO002249-2-A

Legacy Product Code 1310-05

Synonyms FLUTRIAFOL: α -(2-fluorophenyl)- α -(4-fluorophenyl)-1H-1,2,4-triazole-1-ethanol (CAS name); (RS)-2,4'-difluoro- α -(1H-1,2,4-triazol-1-ylmethyl)benzhydryl alcohol (IUPAC name)

Active Ingredient(s) Flutriafol

Chemical Family Triazole

PCP # 31679

Recommended use of the chemical and restrictions on use

Recommended Use: Fungicide

Restrictions on Use: Use as recommended by the label

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization


Category 1B

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
 H317 - May cause an allergic skin reaction
 H411 - Toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P280 - Wear protective gloves
- P273 - Avoid release to the environment

Precautionary Statements - Response

- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P332 + P313 - If skin irritation occurs: Get medical advice/attention
- P363 - Wash contaminated clothing before reuse
- P391 - Collect spillage

Precautionary Statements - Storage

- P405 - Store locked up

Precautionary Statements - Disposal

Dispose of contents/container according to label directions

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Triazole.

Chemical name	CAS-No	Weight %
Flutriafol	76674-21-0	11.6
Propylene glycol	57-55-6	5-10
Alcohols, C13-15 Branched and Linear, Ethoxylated	157627-86-6	5-10
1,2 benzisothiazolin-3-one	2634-33-5	0.02 (max)

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get medical attention if irritation develops and persists.

Inhalation

Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion

Immediate medical attention is required. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

When fed to animals at high dosage, similar products caused salivation, depression of activity, muscle spasms, ataxia and increased body temperature.

Indication of immediate medical attention and special treatment needed, if necessary

. Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, Carbon dioxide (CO₂), Water spray, Foam. Avoid heavy hose streams.

Specific Hazards Arising from the Chemical

None known

Hazardous Combustion Products

The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as: Hydrogen fluoride, Nitrogen oxides (NO_x), Carbon monoxide, Carbon dioxide (CO₂), various chlorinated and fluorinated organic compounds.

Explosion data

Sensitivity to Mechanical Impact

No information available.

Sensitivity to Static Discharge

No information available.

Protective equipment and precautions for firefighters

Use water spray to cool fire exposed surfaces and protect personnel. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Dike to prevent runoff. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other

For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions

Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment

Wear the full Personal Protection Equipment, avoiding inhalation or contact with skin or eyes. Dike to contain spill with inert material which is absorbent and non-combustible (clay, sand or soil). Then soak up with absorbent material inward from the edges.

Methods for cleaning up

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with strong industrial detergent and much water. Absorb wash liquid onto a suitable absorbent such as hydrated lime, universal binder, attapulgate, bentonite or other absorbent clays and transfer contaminated absorbent to suitable containers. The used containers should be properly closed and labelled.

7. HANDLING AND STORAGE

Handling

Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Remove and

wash contaminated clothing before re-use. Wash thoroughly after handling.

Storage To maintain quality, maximum storage temperatures should not exceed 25°C. Protect from frost, heat and sunlight. Keep container tightly closed in a dry and well-ventilated place. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs. Keep/store only in original container. Keep in properly labeled containers.

Incompatible products Oxidizing agents, Copper, Copper alloys

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol (57-55-6)	-	-	TWA: 10 mg/m ³ aerosol only TWA: 50 ppm aerosol and vapor TWA: 155 mg/m ³ aerosol and vapor	-

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits (if listed above). When working in confined spaces (tanks, containers, etc.), Make sure there is an adequate source of air for breathing and wear the recommended equipment. Ventilate all transport vehicles prior to discharge.

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur, wear: Safety glasses with side-shields. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and Body Protection Wear long-sleeved shirt, long pants, socks, and shoes. Avoid contact with skin and clothing. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

Respiratory Protection The product does not automatically present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Hygiene measures Must have clean water available for washing in case of eye or skin contamination. Wash skin before eating, drinking, chewing gum, or using snuff. Shower after work. Remove contaminated clothing and wash before reuse. Wash all work clothing separately; do not mix with household laundry.

General information If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance Suspension
Physical State Liquid

Color	Off-white / brown
Odor	Fish, Glue-like
Odor threshold	Not applicable
pH	6.5 @ 25°C (1% solution in water)
Melting point/freezing point	< 0 °C
Boiling Point/Range	99 °C
Flash point	> 99 °C (PMCC)
Evaporation Rate	No information available
Flammability (solid, gas)	Not applicable (Product is a liquid)
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	1.06 g/mL
Specific gravity	No information available
Water solubility	Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	83-560 mPa.s @20°C; 68-455 mPa.s @ 40°C
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heating can release hazardous gases
Incompatible materials	Oxidizing agents, Copper, Copper alloys.
Hazardous Decomposition Products	See Section 5 for more information.

11. TOXICOLOGICAL INFORMATION

Harmful by inhalation, in contact with skin and if swallowed. Direct eye contact may cause moderate to severe irritation.

Product Information

LD50 Oral	: > 3000 mg/kg (rat)
LD50 Dermal	: > 4000 mg/kg (rat)
LC50 Inhalation	: >2.10 mg/L 4 hr (rat)
Serious eye damage/eye irritation	Mildly irritating.
Skin corrosion/irritation	Non-irritating.
Sensitization	As a precaution the product should be treated as a sensitizer

Information on toxicological effects

Symptoms When fed to animals at high dosage, similar products caused salivation, depression of activity, muscle spasms, ataxia and increased body temperature.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenicity	Flutriafol: Not mutagenic
Carcinogenicity	Flutriafol: No evidence of carcinogenicity from animal studies
Neurological effects	Flutriafol: No information available
Reproductive toxicity	Flutriafol: No toxicity to reproduction in animal studies.
STOT - single exposure	None known.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	Liver
Neurological effects	Flutriafol: No information available
Aspiration hazard	This product presents an aspiration pneumonia hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is toxic to fish, aquatic invertebrates and algae and harmful to bees. It is not considered harmful to birds and soil micro- and macroorganisms.

Persistence and degradability Flutriafol: Not readily biodegradable. Persistent in soil.

Bioaccumulation Flutriafol: Not expected to bioaccumulate.

Mobility Flutriafol: Moderately mobile.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

Contaminated Packaging Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Marine Pollutant	Flutriafol.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (flutriafol), 9, III, Marine Pollutant

ICAO/IATA

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (flutriafol), 9, III, Marine Pollutant

IMDG/IMO

UN/ID no	UN3082
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Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
EmS No.	F-A, S-F
Marine Pollutant	Flutriafol
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (flutriafol), 9, III, Marine Pollutant

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde 50-00-0	100 lb			X
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Formaldehyde 50-00-0	100 lb 45.4 kg	100 lb
Naphthalene 91-20-3	100 lb 45.4 kg	

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 as required on the pesticide label:

WARNING

*May be harmful if inhaled. May cause respiratory tract irritation.
 Causes eye irritation. Contains material which can cause liver damage.
 May be dangerous for the environment. This product is toxic to fish, aquatic invertebrates, and algae and harmful to bees.*

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Propylene glycol 57-55-6	X		X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Propylene glycol 57-55-6	X	X	X	X	X	X	X	X
Alcohols, C13-15 Branched and Linear, Ethoxylated 157627-86-6	X	X	X		X			
1,2 benzothiazolin-3-one 2634-33-5	X	X	X	X	X	X	X	X

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use -Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Formaldehyde	100 2500 kg/yr	100 kg/yr

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

WHMIS Hazard Class

D2B - Toxic materials



D2B - Toxic

16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 1	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend

Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date:

2017-02-24

Reason for revision:

Initial Release

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applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

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End of Safety Data Sheet