

SAFETY DATA SHEET
Xyway™ LFR Fungicide

SDS #: FO004329-A
Revision date: 2020-11-16
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Xyway™ LFR Fungicide

Other means of identification

Product Code(s) FO004329-A

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

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)
SDS-Info@fmc.com (E-Mail General Information)

Emergency telephone number

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

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation

Category 2B

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Signal Word: Warning**Hazard Statements**H320 - Causes eye irritation
No pictograms required**Precautionary Statements - Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

Precautionary Statements - Disposal

P501 - Dispose of contents/container according to label directions

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Harmful to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Triazole.

Chemical name	CAS-No	Weight %
Flutriafol	76674-21-0	20.9
Propylene glycol	57-55-6	5 - 10
D-Glucopyranose, oligomeric, C9-11-alkyl glycosides	132778-08-6	1 - 5

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. Call a poison control center or doctor for further treatment advice.

Skin Contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

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 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	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Small Fire	Dry chemical. Carbon dioxide (CO ₂).
Large Fire	Water spray. Foam.
Unsuitable extinguishing media	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 (NOx). Carbon oxides (COx). 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 people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Keep out of waterways.
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. Prevent further leakage or spillage if safe to do so.
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.

Packaging material Must only be kept in original packaging.

Incompatible products None known

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. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

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 suitable protective clothing. Protective shoes or boots. Minimize skin contamination by following good industrial hygiene practices.

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 Liquid
Physical State Liquid
Color White
Odor Odorless
Odor threshold No information available
pH 6.33 @ 23.3°C (1% solution in water)
Melting point/freezing point No information available
Boiling Point/Range No information available
Flash point > 100 °C / > 212 °F

Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	Flutriafol: 7.1 x 10 ⁻⁹ Pa at 20°C
Vapor density	No information available
Relative density	9.191 lbs/gal (1.101 g/mL) at 23.2°C
Specific gravity	No information available
Water solubility	Dispersible in water
Solubility in other solvents	Solubility of flutriafol at 21°C in: acetone: 114 - 133 g/L n-heptane: < 10 g/L water: 0.13 g/L
Partition coefficient	Flutriafol: log K _{ow} = 2.29
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	1620 centistokes @ 23.1°C 1565 centistokes @ 44.1°C
Viscosity, dynamic	No information available
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 recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heating can release hazardous gases
Incompatible materials	None known.
Hazardous Decomposition Products	See Section 5 for more information.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	> 5000 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rat)
LC50 Inhalation (dust)	> 5.14 mg/L 4 hr (mist) (rat)
Serious eye damage/eye irritation	Moderately irritating. (rabbit).
Skin corrosion/irritation	Slightly irritating (rabbit).
Sensitization	Sensitizer (mice-LLNA)

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation (vapor)
Flutriafol (76674-21-0)	= 1140 mg/kg (Rat)		
Propylene glycol (57-55-6)	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	

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.
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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	No information available
Reproductive toxicity	Flutriafol. No toxicity to reproduction in animal studies.
STOT - single exposure	No specific effects after single exposure have been observed.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	Liver
Neurological effects	No information available
Aspiration hazard	The product does not present an aspiration pneumonia hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts 1258274-08-6		96 h LC50: = 67.4 mg/L (Danio rerio) static	
Formaldehyde 50-00-0		96 h LC50: 0.032 - 0.226 mL/L (Oncorhynchus mykiss) flow-through 96 h LC50: 100 - 136 mg/L (Oncorhynchus mykiss) static 96 h LC50: 22.6 - 25.7 mg/L (Pimephales promelas) flow-through 96 h LC50: 23.2 - 29.7 mg/L (Pimephales promelas) static 96 h LC50: = 1510 µg/L (Lepomis macrochirus) static 96 h LC50: = 41 mg/L (Brachydanio rerio) static	48 h EC50: 11.3 - 18 mg/L (Daphnia magna) Static 48 h LC50: = 2 mg/L (Daphnia magna)
Cyclomethicone 556-67-2		96 h LC50: > 1000 mg/L (Lepomis macrochirus) 96 h LC50: > 500 mg/L (Brachydanio rerio)	24 h EC50: = 25.2 mg/L (Daphnia magna)
Bis(2-ethylhexyl) sodium sulfosuccinate 577-11-7		96 h LC50: 20 - 40 mg/L (Oncorhynchus mykiss) semi-static 96 h LC50: < 24 mg/L (Oncorhynchus mykiss) static 96 h LC50: = 37 mg/L (Lepomis macrochirus) static	48 h EC50: = 36 mg/L (Daphnia magna)
Sodium sulfate 7757-82-6		96 h LC50: 13500 - 14500 mg/L (Pimephales promelas) 96 h LC50: 3040 - 4380 mg/L (Lepomis macrochirus) static 96 h LC50: = 13500 mg/L (Lepomis macrochirus) 96 h LC50: > 6800 mg/L (Pimephales promelas) static	48 h EC50: = 2564 mg/L (Daphnia magna) 96 h EC50: = 630 mg/L (Daphnia magna)
Methyl ethyl ketone 78-93-3		96 h LC50: 3130 - 3320 mg/L (Pimephales promelas) flow-through	48 h EC50: 4025 - 6440 mg/L (Daphnia magna) Static 48 h EC50: = 5091 mg/L (Daphnia magna) 48 h EC50: > 520 mg/L (Daphnia magna)
Naphthalene 91-20-3	72 h EC50: = 0.4 mg/L (Skeletonema costatum)	96 h LC50: 0.91 - 2.82 mg/L (Oncorhynchus mykiss) static 96 h LC50: 5.74 - 6.44 mg/L (Pimephales promelas) flow-through 96 h LC50: = 1.6 mg/L (Oncorhynchus mykiss) flow-through 96 h LC50: = 1.99 mg/L (Pimephales promelas) static 96 h LC50: = 31.0265 mg/L	48 h EC50: 1.09 - 3.4 mg/L (Daphnia magna) Static 48 h EC50: = 1.96 mg/L (Daphnia magna) Flow through 48 h LC50: = 2.16 mg/L (Daphnia magna)

	(Lepomis macrochirus) static	
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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 containers and packages 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 This material is not a hazardous material as defined by U.S. Department of Transportation 49 CFR Parts 100 through 185, unless shipped in bulk packaging. The classification below pertains to the shipment in bulk packaging (>119 gal/882 lb).

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

TDG

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

ICAO/IATA

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

IMDG/IMO

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

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
Methyl ethyl ketone 78-93-3	5000 lb 2270 kg	
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

Causes substantial but temporary eye injury. Do not get in eyes or on clothing.

Harmful if swallowed.

Wash thoroughly with soap/water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania

