

(Material) Safety Data Sheet



Section 1 - Product and Company Identification

Material Name	▪ Topguard (Flutriafol 125 g/l SC)
Product Code	▪ 67760-75
Product Use	▪ Fungicide
Manufacturer	▪ Cheminova, Inc. One Park Drive, Suite 150 P.O. Box 110566, Research Triangle Park, NC 27709 United States www.cheminova.us.com

Telephone**Emergency**

▪ 1-866-303-6950 - 24-Hour Emergency Medical Emergency

Emergency

▪ 1-800-424-9300 - 24-Hour Chemtrec - Continental U.S.

Emergency

▪ (703) 527-3887 - 24-Hour Chemtrec - Outside U.S.

Distributor

▪ Cheminova, Inc.
One Park Drive, Suite 150
P.O. Box 110566, Research Triangle Park, NC 27709
United States
www.cheminova.us.com

Section 2 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Harmful if swallowed. 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 harmful to fish, aquatic invertebrates, aquatic plants and bees.

Physical Form	▪ Liquid
Color	▪ Off-white to brown.
Odor	▪ Fish or glue-like odor.
OSHA	▪ Irritant
GHS	▪ Skin Corrosion/Irritation - Category 3, Serious Eye Damage, Eye Irritation - Category 2A

Route Of Entry	▪ Inhalation, Skin, Eye, Ingestion/Oral
Target Organs	▪ Eye/Ocular/Blindness, Skin/Dermal, Lungs, Liver/Heptatoxin

NFPA:**Potential Health Effects****Inhalation****Acute (Immediate)**

▪ Inhalation may cause irritation to the nose, throat, and upper respiratory tract.

Chronic (Delayed)

▪ Prolonged or repeated overexposure may cause liver damage, even at low levels.

Skin

- Acute (Immediate)** • Direct skin contact may cause mild irritation. Prolonged skin contact may be more irritating.
- Chronic (Delayed)** • No Data Available
- Eye**
- Acute (Immediate)** • Direct eye contact may cause moderate to severe irritation.
- Chronic (Delayed)** • No Data Available
- Ingestion**
- Acute (Immediate)** • Harmful if swallowed. At high dosage, could cause salivation, depression of activity, muscle spasms, ataxia, and increased body temperature, based on animal data.
- Chronic (Delayed)** • No Data Available
- Carcinogenic Effects** • See TOXICOLOGICAL INFORMATION, Section 11.
- Potential Environmental Effects** • This material is harmful to aquatic organisms. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components						
Chemical Name	CAS	%(weight)	UN;EINECS	LD50/LC50	EU Classification & R Phrases	Other
1H-1,2,4-Triazole-1-ethanol, alpha-(2-fluorophenyl)-alpha-(4-fluorophenyl)-	76674-21-0	10% TO 15%		<u>orl-rat LD50:1140 mg/kg</u> <u>skn-rat LD50:>1 gm/kg</u> <u>orl-rbt LD50:200 mg/kg</u> <u>skn-rbt LD50:>2 gm/kg</u>	NDA	NDA
C13-C15 Ethoxylated alcohols	68131-39-5	5% TO 10%		<u>orl-rat LD50:2 gm/kg</u>	NDA	NDA
Propylene glycol	57-55-6	5% TO 10%	200-338-0	<u>orl-rbt LD50:18500 mg/kg</u> <u>orl-rat LD50:20 gm/kg</u> <u>skn-rbt LD50:20800 mg/kg</u> <u>skn-rbt LD50:20800 mg/kg</u> <u>orl-rat LD50:20 gm/kg</u> <u>orl-rbt LD50:18500 mg/kg</u> <u>skn-rbt LD50:20800 mg/kg</u> <u>skn-rbt LD50:20800 mg/kg</u>	NDA	NDA
1,2-Benzisothiazol-3-(2H)-one	2634-33-5	0.015% TO 0.025%	220-120-9	<u>orl-rat LD50:1020 mg/kg</u>	Xn; R22 Xi; R38 R41 R43 N; R50	NDA

SECTION 4 - FIRST AID MEASURES

- Inhalation** • Immediately remove victim to fresh air. If breathing has stopped, begin artificial respiration immediately. Obtain medical advice immediately.
- Skin** • Immediately remove contaminated clothing and shoes. Flush skin with running water for at least 15 minutes. Obtain medical attention if irritation persists. Thoroughly clean contaminated clothing before re-use.
- Eye** • Hold eye(s) open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye(s). Get medical attention.
- Ingestion** • If ingested, do not induce vomiting unless directed to do so by qualified medical personnel. Never give anything by mouth if victim is unconscious or convulsing. Transport to a clinic or hospital immediately.
- Other Information** • Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-303-6950 for emergency medical treatment information.

SECTION 5 - FIRE FIGHTING MEASURES

- Extinguishing Media** • For small fires, use dry chemical or carbon dioxide. For large fires, use water spray or foam.

Unsuitable Extinguishing Media	▪ No Data Available
Firefighting Procedures	▪ Firefighters should wear proper chemically protective equipment and self-contained breathing apparatus operated in pressure demand mode. Move containers from fire area if it can be done without risk. Dike area to prevent water run-off. Water spray may be useful in cooling equipment and containers. Avoid spreading burning water with water jet.
Unusual Fire and Explosion Hazards	▪ Not considered flammable. However, if water evaporates, residual material can burn when exposed to extreme heat, flame, and other ignition sources. Closed containers may build up pressure and explode when exposed to heat and flame. Material is not sensitive to impact. Material is not expected to be sensitive to static discharge.
Hazardous Combustion Products	▪ Carbon oxides, nitrogen oxides, sulfur oxides, hydrogen fluoride, and various fluorinated organic compounds.
Protection of Firefighters	▪ Wear positive pressure self-contained breathing apparatus (SCBA)
Explosion Limits	

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions	▪ Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear appropriate chemically protective equipment. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
Emergency Procedures	▪ Evacuate area. Thoroughly ventilate area.
Environmental Precautions	▪ Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. Dike far ahead of spill to prevent runoff from entering drains, sewers, or waterways.
Containment/Clean-up Measures	▪ Eliminate all sources of heat, sparks, and flame. Ventilate area of release. Stop leak if you can do without risk. Notify appropriate authorities. For spills on the floor or other impervious surfaces, absorb spill with inert, non-combustible absorbent material, such as hydrated lime, Fuller's earth, or absorbent clays. Scoop up and place contaminated absorbent material into suitable containers for later disposal (see Section 13). Clean the spill area with soap and water, then rinse thoroughly. Do not allow flush material to enter sewer, drains, or waterways. Large spills that soak into the ground should be dug up, placed in suitable containers and disposed of appropriately (see Section 13). Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal (see Section 13).
Prohibited Materials	▪ No Data Available
Other Information	▪ If a spill/release in excess of EPA Reportable Quantity is made into the environment, immediately notify the National Response Center (telephone: 1-800-424-8002). EPA/CERCLA Reportable Quantity: None reported.

SECTION 7 - HANDLING AND STORAGE

Handling	▪ This material is a harmful liquid. In an industrial environment, it is recommended to avoid all personal contact with the product, preferably by use of closed systems. For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on packaging or for other official guidance or policy in force. If this guidance is lacking, refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment. Use only in well ventilated area. Avoid contact with eyes, skin, and clothing. Do not inhale vapors or mists. Keep away from all unprotected persons and children. Do not use near sources of heat, flame, or ignition. Keep away from oxidizing and incompatible agents. Use caution when opening containers. Keep container tightly closed when not in use. Wash thoroughly after handling.
Storage	▪ Store in a cool (<77F/25C), dry, well ventilated area away from incompatibles. Protect container from physical damage. Protect container from frost. Do not store in unlabeled containers. No smoking in the area. Inspect containers periodically for damage or leaks. Do not contaminate water, foodstuffs, feed, or seed by storage or disposal.
Special Packaging Materials	▪ Always keep in containers made of the same materials as the supply container.
Incompatible Materials or Ignition Sources	▪ Oxidizing agents, copper, copper alloys.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment

- Pictograms**
 - No Data Available
- Respiratory**
 - Respiratory protection is required. When handling operations produce a heavy vapor or mist, wear a pesticide respirator jointly certified by MSHA and NIOSH under the provisions of 30 CFR Part II. Advice should be sought from respiratory protection specialists.
- Eye/Face**
 - Wear chemical splash goggles to prevent vapors and mists from entering the eyes.
- Hands**
 - Wear impervious chemical gloves, such as heavy duty natural rubber. Advice should be sought from glove suppliers.
- Skin/Body**
 - Wear impervious protective clothing (coveralls, long-sleeved shifts, long pants, and/or shoes and socks) to prevent skin contact. Other protective equipment, such as an eyewash and safety shower, may be required, depending upon exposure and applicable workplace standards.
- General Industrial Hygiene Considerations**
 - Do not inhale vapors or mists. Avoid all contact with eyes, skin, and clothing. Before removing gloves, wash them with soap and water. Always wash hands, face, and arms with soap and water before smoking, eating, or drinking. After work, take off all protective equipment, work clothes and shoes and wash with soap and water. Wear only clean, uncontaminated clothes when leaving place of work. Keep away from unprotected persons and children.
- Engineering Measures/Controls**
 - If handled indoors, provide mechanical exhaust ventilation to keep concentration below specified TLV's and PEL's.
- Exposure Limits/Guidelines**
 - For ingredient exposure levels, see Section 2.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form**
 - Liquid
- Appearance/Description**
 - Off-white to brown liquid (suspension in water).

Color : Off-white to brown.		Odor : Fish or glue-like odor.	
Taste : No data available.		Odor Threshold : NDA	
Boiling Point:	> 212 F(> 100 C)	Vapor Pressure:	0.53 mmHg (torr) @ 68.00 F
Melting Point:	< 32 F(< 0 C)	Vapor Density:	1 Air=1
Specific Gravity:	0	Evaporation Rate:	NDA
Density:	NDA	VOC (Wt.):	NDA
Bulk Density:	NDA	VOC (Vol.):	NDA
Water Solubility:	Soluble 130 mg/L	Volatiles (Wt.):	NDA
Solvent Solubility:	dichloromethane; methanol; slightly soluble in xylene; acetone	Volatiles (Vol.):	NDA
Viscosity:	NDA	Flash Point:	NDA
Half-Life:	NDA	Flash Point Test Type:	NDA
Octanol/Water Partition coefficient:	2.29Kow	UEL:	NDA
Coefficient of Water:	NDA	LEL:	NDA
Bioaccumulation Factor:	NDA	Autoignition:	NDA
pH:	7 to 9		

SECTION 10 - STABILITY AND REACTIVITY

- Stability**
 - This product is stable at ambient temperatures.
- Hazardous Polymerization**
 - Hazardous polymerization will not occur.
- Conditions to Avoid**
 - Avoid heat, flame, and direct sunlight.
- Incompatible Materials**
 - Oxidizing agents, copper, copper alloys.

Hazardous Decomposition Products ▪ None known. Refer to Section 5, Hazardous combustion products.

SECTION 11 - TOXICOLOGICAL INFORMATION

Topguard (Flutriafol 125 g/l SC)									
Test Type	Dosage	Units	Route	Species	Duration	Results	Test Class	Target Organs	Comments
Acute Toxicity	> 2000	mg/kg	Skin	Rat	NDA	NDA	NDA	NDA	NDA
Acute Toxicity	> 2000	mg/kg	Skin	Rat	NDA	NDA	NDA	NDA	NDA

Other Information

- Routes of exposure: skin contact, eye contact, inhalation, and ingestion. Chronic toxicity data: Prolonged or repeated overexposure may cause liver damage, even at low levels. the Lowest Observed Effect Level for this effect has been found to be approximately 15 mg/kg bw/day in a 90-day feeding study in rats (Flutriafol). Carcinogenicity: None of the listed ingredients is classified as carcinogenic by IARC, ACGIH, OSHA, or NTP. Teratogenicity, mutagenicity, other reproductive effects: None known. Sensitization to material: This product is not a sensitizer; however, it contains 0.015-0.025% 1,2-Benzisothiazol-3-(2H)-one, a skin sensitizer. Synergistic materials: Not available.

SECTION 12 - ECOLOGICAL INFORMATION

Topguard (Flutriafol 125 g/l SC)							
Test Type	Dosage	Units	Species	Species Description	Duration	Results	Comments
Aquatic Toxicity	= 7.9	mg/L	Fish	Rainbow trout (<i>Salmo gairdneri</i>)	96 Hour(s)	LC50	
Terrestrial Toxicity	= 7.5	mg/L	Algae or other aquatic plants	Invertebrates (<i>Daphnia magna</i>)	48 Hour(s)	EC50	
Aquatic Toxicity	4.6 to 8.6	mg/L	Algae or other aquatic plants	Green algae (<i>Selenastrum capricornutum</i>)		EC50	

Ecological Fate ▪ No Data Available

Persistence/Degradability ▪ The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters. Do not discharge product unmonitored into the environment. This product is a fungicide and is harmful to fish, aquatic vertebrates, aquatic plants, and bees. It is not harmful to birds and soil micro- and macroorganisms.

Bioaccumulation Potential ▪ The active ingredient, Flutriafol, is not expected to bioaccumulate. The bioaccumulation factor of Flutriafol is measured to be 7 for whole fish (Rainbow trout).

Mobility in Soil ▪ The active ingredient, Flutriafol, has moderate mobility in soil. Absorption depends on soil pH and organic matter content.

SECTION 13 - DISPOSAL CONSIDERATIONS

Product Packaging ▪ Do not contaminate water, food, or feed by storage disposal.

▪ Triple rinse (or equivalent) containers, then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. Disposal must be in compliance with all Federal, state, and local regulations. Contact your local, state, and Federal environmental agency for specific rules.

Other Information ▪ RCRA: If this product, as supplied, becomes a waste, it may meet the criteria of a hazardous waste as defined by RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state, and Federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

US 49 CFR Information: Not regulated for transportation by ground within the continental United States.

SECTION 15 - REGULATORY INFORMATION

SARA Hazard Classifications ▪ Acute, Chronic

Other Information

- EPA/CERCLA: Reportable Quantity (RQ): None reported. SARA TITLE III: Sec 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to the TSCA notification requirements, since it does not contain any Toxic Chemical constituents. California Proposition 65 information: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm. New Jersey Hazardous Substance List: this product contains the following substances required to be disclosed on product labeling: Water: CAS# 7732-18-5, 60-100% by weight, Not a hazardous substance; Flutriafol: CAS# 76674-21-0, 10-15% by weight, Not a hazardous substance; C13-C15 Ethoxylated alcohols: CAS# 68131-39-5, 5-10% by weight, Not a hazardous substance; Propylene glycol: CAS# 57-55-6, 5-10% by weight, Not a hazardous substances; Sulfonated aromatic polymer sodium salt: CAS# N/Av, 1-5% by weight, hazardous substance status not available. In the United States, this product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

SECTION 16 - OTHER INFORMATION**Disclaimer/Statement of Liability**

- The information in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

MSDS Revision Date: June 10, 2010