

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Topguard® Maxx fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	04/29/2025	50001832	Date of first issue: 10/17/2024

SECTION 1. IDENTIFICATION

Product identifier

Product name Topguard® Maxx fungicide

Other means of identification

Product code 50001832

Recommended use of the chemical and restrictions on use

Recommended use Can be used as fungicide only.

Restrictions on use Use as recommended by the label.

Manufacturer or supplier's details

Manufacturer FMC Corporation
2929 Walnut Street
Philadelphia PA 19104
USA
(215) 299-6000
SDS-Info@fmc.com

Supplier Address FMC Corporation
2929 Walnut Street
Philadelphia PA 19104
USA

Emergency telephone

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)

Medical emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation) : Category 4

Specific target organ toxicity : Category 3 (Respiratory system)
- single exposure

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GHS label elements

Hazard pictograms

:



Signal Word

:

WARNING

Hazard Statements

:

H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary Statements

:

Prevention:

P261 Avoid breathing mist or vapors.
P271 Use only outdoors or in a well-ventilated area.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

:

Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Flutriafol	76674-21-0	22.7
Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	$\geq 5 - < 10$
propane-1,2-diol	57-55-6	$\geq 5 - < 10$
Sodium alkyl naphthalenesulfonate formaldehyde condensate	68425-94-5	$\geq 1 - < 5$

SECTION 4. FIRST AID MEASURES

General advice

:

Move out of dangerous area.
Show this material safety data sheet to the doctor in attend-

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- ance.
Do not leave the victim unattended.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention immediately if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Harmful if inhaled.
May cause respiratory irritation.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
Avoid inhalation, ingestion and contact with skin and eyes.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO₂, water spray or regular foam.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
Do not spread spilled material with high-pressure water

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streams.

- | | | |
|--|---|--|
| Specific hazards during fire fighting | : | Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : | Hydrogen fluoride
Nitrogen oxides (NOx)
Carbon oxides
Fluorinated compounds
Fire may produce irritating, corrosive and/or toxic gases. |
| Specific extinguishing methods | : | Remove undamaged containers from fire area if it is safe to do so.
Use a water spray to cool fully closed containers. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for fire-fighters | : | Firefighters should wear protective clothing and self-contained breathing apparatus. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.
Ensure adequate ventilation.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
For disposal considerations see section 13. |
| Environmental precautions | : | Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Never return spills in original containers for re-use.
Collect as much of the spill as possible with a suitable absorbent material.
Pick up and transfer to properly labeled containers.
Keep in suitable, closed containers for disposal. |

SECTION 7. HANDLING AND STORAGE

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- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
- Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.

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Ensure that eye flushing systems and safety showers are located close to the working place.
Wear suitable protective equipment.
In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Do not inhale aerosol.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: suspension
Form	: suspension
Color	: off-white
Odor	: characteristic
Odor Threshold	: No data available
pH	: 5.11
Melting point/freezing point	: < 32 °F / 0 °C
Boiling point/boiling range	: > 212 °F / 100 °C
Flash point	: > 212 °F / > 100 °C
Evaporation rate	: No data available
Self-ignition	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available

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Relative vapor density	:	No data available
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Density	:	1.1 g/cm ³ (68 °F / 20 °C)
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	Miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	1,500 - 1,750 mPa.s
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Avoid extreme temperatures. Avoid formation of aerosol.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The component/mixture is minimally toxic after single ingestion.
Remarks: no mortality

LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 425
Symptoms: Fatality, Breathing difficulties, hypoactivity
Assessment: The component/mixture is minimally toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 4.62 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: no mortality

LC50 (Rat): ca. 3.33 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Tremors, ataxia, Breathing difficulties
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation, Tremors
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: no mortality

Components:

Flutriafol:

Acute oral toxicity : LD50 (Rat, female): 300 - 2,000 mg/kg
Method: OECD Test Guideline 423
Target Organs: Liver, Gastrointestinal tract
Symptoms: Fatality
GLP: yes
Assessment: The component/mixture is moderately toxic after single ingestion.

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LD50 (Rat, female): 1,030 mg/kg
Method: OECD Test Guideline 425
Target Organs: Liver, Gastrointestinal tract
Symptoms: Breathing difficulties

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Fatality, ataxia, Breathing difficulties
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: no mortality

LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: no mortality

Alcohols, C13-15, branched and linear, ethoxylated:

Acute oral toxicity : LD50 (Rat): 500 - 2,000 mg/kg

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg

Acute inhalation toxicity : LC0 (Rabbit): 31.7 mg/l
Exposure time: 2 h
Test atmosphere: vapor
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Sodium alkyl naphthalenesulfonate formaldehyde condensate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

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

Product:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404

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Result : No skin irritation
GLP : yes

Components:

Flutriafol:

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Species : Rabbit
Result : No skin irritation

Alcohols, C13-15, branched and linear, ethoxylated:

Result : No skin irritation

propane-1,2-diol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Sodium alkyl naphthalenesulfonate formaldehyde condensate:

Remarks : No data available

Serious eye damage/eye irritation

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

Product:

Species : Rabbit
Result : slight irritation
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
GLP : yes

Components:

Flutriafol:

Species : Rabbit
Result : slight irritation
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
GLP : yes

Species : Rabbit
Result : Slight or no eye irritation
Assessment : Not classified as irritant
Method : OECD Test Guideline 405

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GLP	:	yes
Species	:	Rabbit
Result	:	slight irritation

Alcohols, C13-15, branched and linear, ethoxylated:

Result	:	Irreversible effects on the eye
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propane-1,2-diol:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Sodium alkyl naphthalenesulfonate formaldehyde condensate:

Result	:	Eye irritation
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Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Product:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	yes

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.
GLP	:	yes

Components:

Flutriafol:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Assessment	:	Did not cause sensitization on laboratory animals.
Method	:	OECD Test Guideline 406
GLP	:	yes

Species	:	Guinea pig
Result	:	Not a skin sensitizer.

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propane-1,2-diol:

Test Type	: Maximization Test
Species	: Guinea pig
Result	: negative

Germ cell mutagenicity

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

Components:

Flutriafol:

Genotoxicity in vivo	: Test Type: dominant lethal test
	Method: OECD Test Guideline 478
	Result: negative

propane-1,2-diol:

Genotoxicity in vitro	: Test Type: reverse mutation assay
	Result: negative

Genotoxicity in vivo	: Test Type: In vivo micronucleus test
	Species: Mouse
	Result: negative

Carcinogenicity

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

Components:

Flutriafol:

Species	: Mouse
Exposure time	: 2 Years
NOAEL	: 1.2 mg/kg bw/day
Result	: negative

Species	: Rat
Exposure time	: 2 Years
NOAEL	: 1 mg/kg bw/day
Result	: negative

Carcinogenicity - Assessment	: Animal testing did not show any carcinogenic effects.
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propane-1,2-diol:

Species	: Rat
Application Route	: Oral
Exposure time	: 2 Years
Result	: negative

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is
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identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

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

Components:

Flutriafol:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Method: OECD Test Guideline 416
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Method: OECD Test Guideline 414
Result: negative

propane-1,2-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Mouse
Application Route: Oral
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 414
Result: Animal testing did not show any effects on fertility.
Remarks: Based on data from similar materials

STOT-single exposure

May cause respiratory irritation.

Components:

Flutriafol:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

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

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Repeated dose toxicity

Components:

Flutriafol:

Species	: Rat
NOAEL	: 13.3 mg/kg bw/day
Application Route	: Oral - feed
Exposure time	: 90 d
Symptoms	: anemia, Liver effects

Species	: Dog
NOAEL	: 5 mg/kg bw/day
Application Route	: Oral
Exposure time	: 90 d
Symptoms	: blood effects, Liver effects

propane-1,2-diol:

Species	: Rat, male and female
NOAEL	: 1,700 mg/kg
Application Route	: Oral
Exposure time	: 2 Years

Species	: Rat, male and female
NOAEL	: 1,000 mg/kg
LOAEL	: 160 mg/kg
Application Route	: Inhalation
Exposure time	: 90 Days

Aspiration toxicity

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

Components:

Flutriafol:

The substance does not have properties associated with aspiration hazard potential.

Neurological effects

Components:

Flutriafol:

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks	: No data available
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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Flutriafol:

- | | | |
|---|---|--|
| Toxicity to fish | : | LC50 (Lepomis macrochirus (Bluegill sunfish)): 33 mg/l
Exposure time: 96 h

LC50 (Danio rerio (zebra fish)): 22.97 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 67 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

EC50 (Daphnia magna (Water flea)): 42.21 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | IC50 (Selenastrum capricornutum (green algae)): 12 mg/l
Exposure time: 96 h

IC50 (Scenedesmus subspicatus): 1.9 mg/l
Exposure time: 72 h

EbC50 (Lemna gibba (duckweed)): 0.65 mg/l
Exposure time: 7 d

EyC50 (Pseudokirchneriella subcapitata (algae)): 3.69 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Lepomis macrochirus (Bluegill sunfish)): 4.8 mg/l
Exposure time: 28 d

NOEC (Danio rerio (zebra fish)): 20 mg/l
Exposure time: 14 d
Method: OECD Test Guideline 204

NOEC (Pimephales promelas (fathead minnow)): 0.1 mg/l
End point: Growth
Test Type: Early Life-Stage
Method: OECD Test Guideline 210 |

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.31 mg/l
Exposure time: 21 d

NOEC (Daphnia magna (Water flea)): 0.45 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): 0.01 mg/cm2
Exposure time: 180 d

LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): > 144 µg/bee
End point: Acute oral toxicity
Method: OECD Test Guideline 213
GLP: yes

LD50 (Apis mellifera (bees)): > 150 µg/bee
End point: Acute contact toxicity
Method: OECD Test Guideline 214
GLP: yes

LD50 (Apis mellifera (bees)): > 100 µg/bee
End point: Acute contact toxicity
Method: OECD Test Guideline 214

LD50 (Apis mellifera (bees)): 872.53 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Method: OECD Test Guideline 213

LD50 (Anas platyrhynchos (Mallard duck)): > 5,000 mg/kg

LD50 (Coturnix japonica (Japanese quail)): ca. 385 mg/kg
Method: US EPA Test Guideline OPPTS 850.2100

LD50 (Coturnix japonica (Japanese quail)): 4260 ppm
Method: OPPTS 850.2200

Alcohols, C13-15, branched and linear, ethoxylated:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 1 - 10 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Scenedesmus subspicatus): > 1 - 10 mg/l
Exposure time: 72 h

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l

propane-1,2-diol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 13,020 mg/l
Exposure time: 7 d

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 20,000 mg/l
Exposure time: 18 h

Sodium alkyl naphthalenesulfonate formaldehyde condensate:

Toxicity to fish : LC50 (Zebra fish): > 10 - 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

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Persistence and degradability

Components:

Flutriafol:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Remarks: Does not readily hydrolyze

Alcohols, C13-15, branched and linear, ethoxylated:

Biodegradability : Result: Readily biodegradable.

propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 23.6 %
Exposure time: 64 d
Method: OECD Test Guideline 306

Sodium alkylnaphthalenesulfonate formaldehyde condensate:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

Flutriafol:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 7
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2.29

Alcohols, C13-15, branched and linear, ethoxylated:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

propane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1.07

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Mobility in soil

Components:

Flutriafol:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Remarks: Very persistent in soil.

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

Components:

Flutriafol:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Flutriafol)

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Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Flutriafol)

Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Flutriafol)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Road

Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

propane-1,2-diol	57-55-6	>= 5 - < 10 %
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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

water	7732-18-5
Flutriafol	76674-21-0
Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6
propane-1,2-diol	57-55-6
Sodium alkyl naphthalenesulfonate formaldehyde condensate	68425-94-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The ingredients of this product are reported in the following inventories:

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory

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DSL	: This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
Alcohols, C13-15, branched and 157627-86-6
linear, ethoxylated

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., Harmful if swallowed, Avoid contact with skin, eyes and clothing., Wear protective eyewear (goggles, face shield, or safety glasses)., Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

SECTION 16. OTHER INFORMATION

Further information

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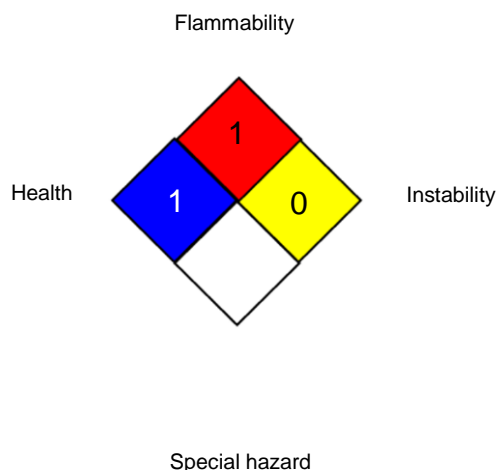
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NFPA 704:



0 No health threat, 1 Slightly Hazardous, 2 Hazardous, 3 Extreme danger, 4 Deadly

HMIS® IV:

HEALTH	/	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA : 8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the

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Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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End of Material Safety Data Sheet