

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** TOPGUARD™ EQ Fungicide

**Other means of identification**

**Product code** 50001310

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Fungicide  
stance/Mixture

Recommended restrictions : Use as recommended by the label.  
on use

#### 1.3 Details of the supplier of the safety data sheet

##### 1.3 Details of the supplier of the safety data sheet

**Supplier Address** FMC Chemicals (Pty) Ltd  
Company Registration No.: 1988/001451/07  
West End Office Park, Building C  
Cnr. West Ave & Hall Street  
Centurion  
0014  
South Africa

E-mail address: SDS-Info@fmc.com .

#### 1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:  
South Africa: 0-800-983-611 (CHEMTREC)

Medical emergency:  
For any emergency or poisoning contact: Griffon Poison Infor-  
mation Centre (24 hrs) - +27-(0)-82-446-8946

---

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

Short-term (acute) aquatic hazard, Cate- H400: Very toxic to aquatic life.  
gory 1

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

#### Prevention:

P273 Avoid release to the environment.

#### Response:

P391 Collect spillage.

#### Disposal:

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

#### Additional Labeling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
azoxystrobin (ISO)	131860-33-8 607-256-00-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 25 - < 30

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version 1.0      Revision Date: 25.10.2023      SDS Number: 50001310      Date of last issue: -  
Date of first issue: 25.10.2023

		M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	
Flutriafol	76674-21-0	Acute Tox. 4; H302 Aquatic Chronic 2; H411	$\geq 10 - < 20$
Sodium alkyl naphthalene sulfonate	68425-94-5	Eye Irrit. 2; H319	$\geq 2.5 - < 10$
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411  M-Factor (Acute aquatic toxicity): 10	$\geq 0.0025 - < 0.025$

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first-aid measures

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Remove to fresh air.  
Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If on clothes, remove clothes.  
If on skin, rinse well with water.  
Wash off with soap and plenty of water.  
Get medical attention immediately if irritation develops and persists.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : 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.  
Do not induce vomiting without medical advice.

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

**4.2 Most important symptoms and effects, both acute and delayed**

Risks : Slight irritation may occur.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.  
Immediate medical attention is required in case of ingestion.

---

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Thermal decomposition can lead to release of irritating gases and vapors.  
Hydrogen fluoride  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Fluorinated compounds  
Hydrogen cyanide  
Sulfur oxides

**5.3 Advice for firefighters**

Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

Wear self-contained breathing apparatus for firefighting if necessary.

Further information : 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.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

---

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.  
If it can be safely done, stop the leak.  
Keep people away from and upwind of spill/leak.

---

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

Remove all sources of ignition.  
Immediately evacuate personnel to safe areas.  
Ensure adequate ventilation.  
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.

**6.2 Environmental precautions**

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

See sections: 7, 8, 11, 12 and 13.

---

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid contact with skin and eyes.  
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.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Keep away from open flames, hot surfaces and sources of ignition.

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

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : No smoking. Keep in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installa-

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version 1.0      Revision Date: 25.10.2023      SDS Number: 50001310      Date of last issue: -  
Date of first issue: 25.10.2023

tions / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. Protect from frost and extreme heat. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

Recommended storage temperature : 5 - 30 °C

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Routes of exposure	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m3
	Workers	Inhalation	Long-term local effects	10 mg/m3
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Inhalation	Long-term local effects	10 mg/m3
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Intermittent use/release	183 mg/l

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version 1.0      Revision Date: 25.10.2023      SDS Number: 50001310      Date of last issue: -  
Date of first issue: 25.10.2023

	Sea water	26 mg/l
	Sewage treatment plant	20 g/l
	Fresh water sediment	572 mg/kg
	Sea sediment	57.2 mg/kg
	Soil	50 mg/kg
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Sea water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/l
	Sea sediment	0.00499 mg/l

### 8.2 Exposure controls

#### Personal protective equipment

- Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles
- 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.
- Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Protective measures : Plan first aid action before beginning work with this product.  
Always have on hand a first-aid kit, together with proper instructions.  
Wear suitable protective equipment.  
When using do not eat, drink or smoke.  
In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : liquid
- Form : liquid
- Color : light brown
- Odor : slight, ammoniacal
- pH : 6.4

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

Melting point/freezing point	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	85.2 °C Method: Pensky-Martens closed cup combustible
Evaporation rate	:	not determined
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapor pressure	:	Not available for this mixture.
Relative vapor density	:	not determined
Relative density	:	1.160 (20 °C)
Density	:	9.839 lb/gal
Solubility(ies)	:	
Water solubility	:	Miscible
Partition coefficient: n- octanol/water	:	Not available for this mixture.
Decomposition temperature	:	not determined
Viscosity	:	
Viscosity, dynamic	:	1,972 mPa.s (20 °C) 1,624 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

### 9.2 Other information

Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable
Self-ignition	:	not determined



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No decomposition if stored and applied as directed.

**10.2 Chemical stability**

No decomposition if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : No decomposition if stored and applied as directed.

Vapors may form explosive mixture with air.

**10.4 Conditions to avoid**Conditions to avoid : Heat, flames and sparks.  
Protect from frost.**10.5 Incompatible materials**

Materials to avoid : Avoid strong acids, bases, and oxidizers.

**10.6 Hazardous decomposition products**

Stable under recommended storage conditions.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Not classified based on available information.

**Product:**Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 425  
Remarks: Based on data from a similar product.Acute inhalation toxicity : > 3.93 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from a similar product.Acute dermal toxicity : LD50 Dermal (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from a similar product.**Components:****azoxystrobin (ISO):**Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

Acute inhalation toxicity : Acute toxicity estimate: 0.7 mg/l  
Test atmosphere: dust/mist  
Method: Acute toxicity estimate according to Regulation (EC)  
No. 1272/2008

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402

**Flutriafol:**

Acute oral toxicity : LD50 (Rat, male): 1,140 mg/kg  
  
LD50 (Rat, female): 1,480 mg/kg  
  
LD50 (Rat, female): 200 - 2,000 mg/kg  
Method: OECD Test Guideline 423  
Target Organs: Liver, Gastrointestinal tract  
Symptoms: Fatality  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The component/mixture is minimally toxic after single contact with skin.  
Remarks: no mortality

**Sodium alkyl naphthalene sulfonate:**

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

**1,2-benzisothiazol-3(2H)-one:**

Acute oral toxicity : Acute toxicity estimate: 500.0 mg/kg  
Method: Converted acute toxicity point estimate

LD50 (Rat, male and female): 490 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Not classified based on available information.

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

### **Product:**

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from a similar product.
Remarks	:	May cause skin irritation and/or dermatitis.

### **Components:**

#### **azoxystrobin (ISO):**

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on available data, the classification criteria are not met.

#### **Flutriafol:**

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

#### **Sodium alkyl naphthalene sulfonate:**

Remarks	:	No data available
---------	---	-------------------

#### **1,2-benzisothiazol-3(2H)-one:**

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

#### **Serious eye damage/eye irritation**

Not classified based on available information.

### **Product:**

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from a similar product.
Remarks	:	Vapors may cause irritation to the eyes, respiratory system and the skin.

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

**Components:****azoxystrobin (ISO):**

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on available data, the classification criteria are not met.

**Flutriafol:**

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

**Sodium alkyl naphthalene sulfonate:**

Result	:	Eye irritation
--------	---	----------------

**1,2-benzisothiazol-3(2H)-one:**

Species	:	Bovine cornea
Method	:	OECD Test Guideline 437
Result	:	No eye irritation
Species	:	Rabbit
Method	:	EPA OPP 81-4
Result	:	Irreversible effects on the eye

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

Species	:	Guinea pig
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from a similar product.

**Components:****azoxystrobin (ISO):**

Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

**Flutriafol:**

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Not a skin sensitizer.

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

### 1,2-benzisothiazol-3(2H)-one:

Test Type : Maximization Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitization by skin contact.

Species : Guinea pig  
Method : FIFRA 81.06  
Result : May cause sensitization by skin contact.

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Flutriafol:

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

### 1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro : Test Type: gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay  
Species: Rat (male)  
Cell type: Liver cells  
Application Route: Ingestion  
Exposure time: 4 h  
Method: OECD Test Guideline 486  
Result: negative

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity**

Not classified based on available information.

**Components:****azoxystrobin (ISO):**

Method : OECD Test Guideline 451  
Result : negative  
Remarks : No significant adverse effects were reported

Method : OECD Test Guideline 453  
Result : negative  
Remarks : No significant adverse effects were reported

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

**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.

**Reproductive toxicity**

Not classified based on available information.

**Components:****azoxystrobin (ISO):**

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity  
Did not show teratogenic effects in animal experiments.

**Flutriafol:**

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

Assessment Animal testing showed no developmental toxicity.

### 1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male  
Application Route: Ingestion  
General Toxicity Parent: NOAEL: 18.5 mg/kg body weight  
General Toxicity F1: NOAEL: 48 mg/kg body weight  
Fertility: NOAEL: 112 mg/kg bw/day  
Symptoms: No effects on reproduction parameters.  
Method: OPPTS 870.3800  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### STOT-single exposure

Not classified based on available information.

#### Components:

#### azoxystrobin (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### Flutriafol:

Remarks : No significant adverse effects were reported

### STOT-repeated exposure

Not classified based on available information.

#### Components:

#### azoxystrobin (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### 1,2-benzisothiazol-3(2H)-one:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### azoxystrobin (ISO):

Species : Rat  
NOAEL : 21 mg/kg bw/day  
Application Route : Oral  
Exposure time : 90 d  
Remarks : No significant adverse effects were reported

Species : Dog

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

NOAEL : 50 mg/kg bw/day  
Application Route : Oral  
Exposure time : 90 d  
Remarks : No significant adverse effects were reported

Species : Dog  
NOAEL : 25 mg/kg bw/day  
Application Route : Oral  
Exposure time : 1 yr  
Remarks : No significant adverse effects were reported

### 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

### 1,2-benzisothiazol-3(2H)-one:

Species : Rat, male and female  
NOAEL : 15 mg/kg  
Application Route : Ingestion  
Exposure time : 28 d  
Method : OECD Test Guideline 407  
Symptoms : Irritation

Species : Rat, male and female  
NOAEL : 69 mg/kg  
Application Route : Ingestion  
Exposure time : 90 d  
Symptoms : Irritation, Reduced body weight

### Aspiration toxicity

Not classified based on available information.

### Components:

#### azoxystrobin (ISO):

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

#### Flutriafol:

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



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

**Neurological effects****Components:****Flutriafol:**

No neurotoxicity observed in animal studies.

**Further information****Product:**

Remarks : Mild irritation. Inhalation may result in difficulty breathing.

**SECTION 12: Ecological information****12.1 Toxicity****Product:****Ecotoxicology Assessment**

Acute aquatic toxicity : No data is available on the product itself.

Chronic aquatic toxicity : No data is available on the product itself.

**Components:****azoxystrobin (ISO):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.28 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

EC50 (Americamysis bahia (mysid shrimp)): 0.055 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Lemna gibba (duckweed)): 3.2 mg/l  
Exposure time: 14 d

EC50 (Navicula pelliculosa (Diatom)): 0.146 mg/l  
Exposure time: 72 h

NOEC (Navicula pelliculosa (Diatom)): 0.02 mg/l  
Exposure time: 72 h

NOEC (Lemna gibba (duckweed)): 0.8 mg/l  
Exposure time: 14 d

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 0.16 mg/l

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version 1.0	Revision Date: 25.10.2023	SDS Number: 50001310	Date of last issue: - Date of first issue: 25.10.2023
----------------	------------------------------	-------------------------	--

icity)

Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: OECD Test Guideline 204

NOEC: 0.147 mg/l  
Exposure time: 28 d  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) :

NOEC: 0.044 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

NOEC: 0.00954 mg/l  
Exposure time: 28 d  
Species: Americamysis bahia (mysid shrimp)

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to soil dwelling organisms :

LC50: 283 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms :

LD50: > 1,000 mg/kg  
Species: Anas platyrhynchos (Mallard duck)

LD50: > 1,000 mg/kg  
Species: Colinus virginianus (Bobwhite quail)

LD50: > 5,200 ppm  
Species: Colinus virginianus (Bobwhite quail)  
Remarks: Dietary

LD50: > 200 µg/bee  
Exposure time: 48 h  
End point: Acute contact toxicity  
Species: Apis mellifera (bees)

LD50: > 25 µg/bee  
Exposure time: 48 h  
End point: Acute oral toxicity  
Species: Apis mellifera (bees)

### Flutriafol:

Toxicity to fish :

LC50 (Oncorhynchus mykiss (rainbow trout)): 61 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates :

EC50 (Daphnia magna (Water flea)): 75.7 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

- |  |   |  |
|--|---|--|
| Toxicity to algae/aquatic plants                                       | : | IC50 (Selenastrum capricornutum (green algae)): 12 mg/l<br>Exposure time: 96 h<br><br>IC50 (Scenedesmus subspicatus): 1.9 mg/l<br>Exposure time: 72 h<br><br>EbC50 (Lemna gibba (duckweed)): 0.65 mg/l<br>Exposure time: 7 d   |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC: 6.2 mg/l<br>Exposure time: 28 d<br>Species: Oncorhynchus mykiss (rainbow trout)  |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0.31 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)  |
| Toxicity to soil dwelling organisms                                    | : | NOEC:<br>0.01 mg/cm <sup>2</sup><br>Exposure time: 180 d<br>Species: Eisenia fetida (earthworms)   |
| Toxicity to terrestrial organisms                                      | : | LD50: > 144<br>End point: Acute oral toxicity<br>Species: Apis mellifera (bees)<br>Method: OECD Test Guideline 213<br>GLP:yes<br><br>LD50: > 150 µg/bee<br>End point: Acute contact toxicity<br>Species: Apis mellifera (bees)<br>Method: OECD Test Guideline 214<br>GLP:yes<br><br>LDD50: 14 µg/bee<br>Exposure time: 10 d<br>End point: Acute oral toxicity<br>Species: Apis mellifera (bees)<br>Method: OECD TG 245<br>GLP:yes<br><br>LD50: > 5,000 mg/kg<br>Species: Anas platyrhynchos (Mallard duck) |

### Sodium alkyl naphthalene sulfonate:

- |   |   |  |
|---|---|--|
| Toxicity to fish                                    | : | LC50 (Zebra fish): > 10 - 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203<br>Remarks: Based on data from similar materials            |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials |

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

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: > 10 - 100 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

**1,2-benzisothiazol-3(2H)-one:**

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7 mg/l  
Exposure time: 96 h  
Test Type: static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

EC50 (activated sludge): 12.8 mg/l  
Exposure time: 3 h

## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

**12.2 Persistence and degradability****Product:**

Biodegradability : Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

**Components:****azoxystrobin (ISO):**

Biodegradability : Result: Not readily biodegradable.

**Flutriafol:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Remarks: Does not readily hydrolyze

**Sodium alkyl naphthalene sulfonate:**

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

**1,2-benzisothiazol-3(2H)-one:**

Biodegradability : Result: rapidly biodegradable  
Method: OECD Test Guideline 301C

**12.3 Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data is available on the product itself.

**Components:****azoxystrobin (ISO):**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2.5 (20 °C)

**Flutriafol:**

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

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

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

### 1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Exposure time: 56 d  
Bioconcentration factor (BCF): 6.62  
Method: OECD Test Guideline 305  
Remarks: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)  
pH: 7  
  
log Pow: 0.99 (20 °C)  
pH: 5

## 12.4 Mobility in soil

### Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

### Components:

#### azoxystrobin (ISO):

Distribution among environmental compartments : Remarks: Under normal conditions the substance has low to moderate mobility in soil.

#### Flutriafol:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Remarks: Very persistent in soil.

### 1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments : Koc: 9.33 ml/g, log Koc: 0.97  
Method: OECD Test Guideline 121  
Remarks: Highly mobile in soils

## 12.5 Results of PBT and vPvB assessment

### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Other adverse effects

### Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version 1.0	Revision Date: 25.10.2023	SDS Number: 50001310	Date of last issue: - Date of first issue: 25.10.2023
----------------	------------------------------	-------------------------	--

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very 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

### 13.1 Waste treatment methods

Product : 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.

Contaminated packaging : Empty remaining contents.  
Do not re-use empty containers.  
Packaging that is not properly emptied must be disposed of as the unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

### 14.1 UN number

UNRTDG : UN 3082  
IMDG : UN 3082  
IATA : UN 3082

### 14.2 UN proper shipping name

UNRTDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Flutriafol, Azoxystrobin)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Flutriafol, Azoxystrobin)

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(Flutriafol, Azoxystrobin)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>UNRTDG</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

### 14.4 Packing group

**UNRTDG**  
Packing group : III  
Labels : 9

**IMDG**  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

**UNRTDG**  
Environmentally hazardous : yes

**IMDG**  
Marine pollutant : yes

**IATA (Passenger)**  
Environmentally hazardous : yes

**IATA (Cargo)**  
Environmentally hazardous : yes

### 14.6 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.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****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
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.  (RS)-2,4'-DIFLUORO-A-(1H-1,2,4-TRIAZOL-1-YLMETHYL)BENZHYDRYL ALCOHOL azoxystrobin (ISO) mixture of polyorganosiloxanes and fillers
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

**15.2 Chemical Safety Assessment**

A chemical safety assessment is not required for this product (mixture).

**SECTION 16: Other information****Full text of H-Statements**

H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H331	: Toxic if inhaled.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitization

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Other information :

### Classification of the mixture:

Aquatic Acute 1	H400
Aquatic Chronic 1	H410

### Classification procedure:

Calculation method
Calculation method

### Disclaimer

# SAFETY DATA SHEET



## TOPGUARD™ EQ Fungicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.10.2023	50001310	Date of first issue: 25.10.2023

---

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to insure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. 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.

### Prepared by

FMC Corporation

FMC and the FMC Logo are trademarks of FMC Corporation and/or an affiliate.

© 2021-2023 FMC Corporation. All Rights Reserved.

ZA / EN