



syngenta®

GROUP 12 FUNGICIDE F

Product registration number: MAPP 16430; PCS 04278

Flowable concentrate for seed treatment containing 25 g/l (2.43% w/w) fludioxonil.

Controls seed-borne diseases on winter and spring crops of wheat, barley, oats, rye and triticale and also soil-borne bunt.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work (UK only).

In case of toxic or transport emergency ring (01484) 538444 any time.

Authorisation Holder	Marketing Company
Syngenta UK Ltd CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE Tel: +44 (0)1223 883400	Syngenta Ireland Limited Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland Tel: (051) 377203

This container should be handled only by mechanical means.

PROTECT FROM FROST  
MIX THOROUGHLY BEFORE USE



This product label is compliant with the CPA Voluntary Initiative (VI) guidance.

200 litres

#### SAFETY PRECAUTIONS

##### (a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:  
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the product, treated seed or contaminated surfaces.  
However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.  
WASH HANDS AND EXPOSED SKIN before meals and after work.

##### (b) Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.  
TREATED SEED MUST NOT BE USED as food or feed.  
DO NOT APPLY TREATED SEED FROM THE AIR.  
DO NOT RE-USE SACKS OR CONTAINERS THAT HAVE CONTAINED TREATED SEED for food or feed.  
LABEL TREATED SEED with the appropriate precautions using printed sacks, labels or bag tags supplied.

##### (c) Storage and disposal

KEEP IN ORIGINAL CONTAINER tightly closed in a safe place.  
DO NOT RINSE OUT CONTAINER.  
DO NOT RE-USE CONTAINER for any other purpose  
OPEN THE CONTAINER ONLY AS DIRECTED.  
RETURN EMPTY CONTAINER TO SUPPLIER.

#### FOR PROFESSIONAL USE ONLY

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

**BERET® Gold** is a flowable concentrate for seed treatments containing 25 g/l fludioxonil



**Toxic to aquatic life with long lasting effects.**

Keep out of reach of children.  
Do not eat, drink or smoke when using this product.  
Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.  
Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

MAPP 16430; PCS 04278

#### IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL SEED TREATMENT

For use on:

Crop	Maximum individual dose (litres product/tonne seed)	Maximum no. of treatments	Latest time of application
Wheat (seed), barley (seed), oats (seed), rye (seed), triticale (seed)	2	One per batch	Before drilling

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.**

#### DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

#### GENERAL INFORMATION

Results from trials have shown BERET® Gold to be well tolerated over a wide range of sowing dates and conditions. However under adverse environmental or soil conditions, the germination capacity of seed may be reduced and therefore seed rates should be increased in accordance with good agricultural practice.  
BERET Gold is effective against benzimidazole resistant and sensitive forms of *Microdochium nivale*.

#### DISEASES CONTROLLED

##### Winter and spring wheat

BERET Gold controls *Microdochium nivale*, *Fusarium culmorum* and *Septoria nodorum* resulting in reductions in seedling blight, stem base browning, snow mould and Septoria seedling blight and controls seed-borne and soil-borne common bunt (*Tilletia caries*).

##### Winter and spring barley

BERET Gold controls *Microdochium nivale* and *Fusarium culmorum* resulting in reductions in seedling blight, stem base browning and snow mould.  
BERET Gold controls covered smut (*Ustilago hordei*), and gives partial control of leaf stripe (*Drechslera graminea*). In crops grown for seed the control of leaf stripe may not be sufficient to prevent higher levels of leaf stripe being seen in daughter crops.

##### Winter and spring oats

BERET Gold controls *Microdochium nivale* and *Fusarium culmorum* resulting in reductions in seedling blight and stem base browning. In crops grown for seed the control of Pyrenophora leaf spot (*Pyrenophora avenae*) may not be sufficient to prevent higher levels of Pyrenophora leaf spot being seen in daughter crops.

##### Rye and Triticale

BERET Gold controls *Microdochium nivale* and *Fusarium culmorum* resulting in reductions of seedling blight and stem-base browning in Rye and Tricale. BERET Gold also controls striped smut (*Ustilago occulta*) in Rye.

#### CROP SPECIFIC INFORMATION

##### Crops

BERET Gold is recommended as a seed treatment for use on winter and spring crops of wheat, barley, oats, rye and triticale.

##### Timing

Before drilling

##### Rates of Use

2.0 litres BERET Gold per tonne of seed

#### MIXING AND SPRAYING

BERET GOLD should be applied directly to the seed using conventional seed treatment equipment. The container should be connected to the seed treater suction hose using the dry break coupling provided.

The empty container should not be rinsed out but should be stored in a purpose built chemical store and subsequently returned to the supplier for refilling. The empty container should be treated as if containing product and transported in accordance with the advice in the Code of Practice for the Safe Use of Pesticides on Farms and Holdings.

Continuous flow treaters should be calibrated using BERET GOLD before use.

Do not apply BERET GOLD to cracked, split or sprouted seed.

#### Storage after Treatment

Ensure seed is of a satisfactory moisture content before storage. Keep in a dry place correctly labelled.

Seed bag labels are available from Syngenta UK Ltd.

#### Drilling

Seed treated with BERET GOLD may affect the flow rate of seed through drills. It is therefore important to check the calibration of the drill with BERET GOLD treated seed before drilling commences.

#### SEED BAG LABEL

This seed has been treated with BERET GOLD (contains fludioxonil).

Controls seed-borne diseases on winter and spring crops of wheat, barley, oats, rye and triticale and also soil-borne bunt.

In crops grown for seed the control of leaf stripe in barley and Pyrenophora leaf spot in oats may not be sufficient to prevent higher levels of leaf stripe being seen in daughter crops.

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#### PRECAUTIONS

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling treated seed or contaminated surfaces .  
THIS SEED HAS BEEN CHEMICALLY TREATED  
DO NOT HANDLE seed unnecessarily  
TREATED SEED MUST NOT TO BE USED as food or feed  
DO NOT RE-USE SACKS OR CONTAINERS THAT HAVE CONTAINED TREATED SEED for food or feed  
KEEP TREATED SEED SECURE from people, domestic stock / pets and wildlife at all times during storage and use  
BURY OR REMOVE SPILLAGES  
HARMFUL TO AQUATIC ORGANISMS. DO NOT CONTAMINATE SURFACE WATERS OR DITCHES WITH CHEMICAL OR USED CONTAINER  
WASH HANDS AND EXPOSED SKIN before meals and after work  
DO NOT APPLY TREATED SEED FROM THE AIR

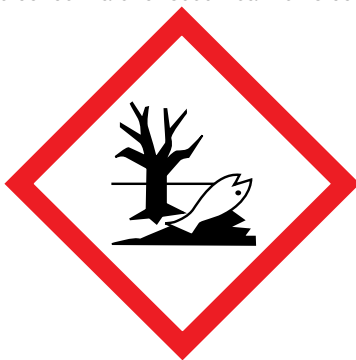
#### CAUTION

BERET Gold may reduce the flow rate of seed in a seed drill. Recalibrate drill with BERET Gold treated seed before drilling

**FOR PROFESSIONAL USE ONLY**

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**BERET® Gold** is a flowable concentrate for seed treatments containing 25 g/l fludioxonil

**Toxic to aquatic life with long lasting effects.**

Keep out of reach of children.

Do not eat, drink or smoke when using this product.

Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

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DO NOT RE-USE SACKS OR CONTAINERS THAT HAVE CONTAINED TREATED SEED for food or feed

KEEP TREATED SEED SECURE from people, domestic stock / pets and wildlife at all times during storage and use

BURY OR REMOVE SPILLAGES

HARMFUL TO AQUATIC ORGANISMS. DO NOT CONTAMINATE SURFACE WATERS OR DITCHES WITH CHEMICAL OR USED CONTAINER

WASH HANDS AND EXPOSED SKIN before meals and after work

DO NOT APPLY TREATED SEED FROM THE AIR

#### **CAUTION**

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#### **Section 6 of the Health and Safety at Work Act** **Additional Product Safety Information**

(This section does not form part of the product label under the Plant Protection Products Regulations 1995.)

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'extension of use' approval or is otherwise permitted under the Plant Protection Products Regulations.

The information on this label is based on the best available information including data from test results.

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## 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING

### 1.1 Product Identifier

Trade name: BERET Gold

Design code: A8207M

Product Registration number: MAPP 16430

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

Use of the substance/mixture: Fungicide

Recommended restrictions on use: professional use

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

Company: Syngenta UK Limited  
CPC4, Capital Park, Fulbourn,  
Cambridge CB21 5XE, United Kingdom

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@syngenta.com

### 1.4 Emergency telephone number

Emergency phone No.: +44 1484 538444

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## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Long-term (chronic) aquatic hazard, Category 2 - H411: Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

#### Hazard pictograms:



#### Hazard statements:

H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P102 Keep out of reach of children.

#### Prevention:

P270 Do not eat, drink or smoke when using this product.

#### Response:

P391 Collect spillage.

#### Disposal

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

### Additional Labelling

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

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

### 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.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

##### Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
alcohols, C16-18 and C18-unsatd., ethoxylated	68920-66-1 500-236-9 01-2119489407-26	Skin Irrit. 2; H315 Aquatic Chronic 3; H412	>= 2.5 - < 10
Fludioxonil (ISO)	131341-86-1 608-069-00-4	Aquatic Acute1; H400 Aquatic Chronic1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	>= 1 - < 2.5
Poly(oxy-1,2-ethanediyl), alpha-sulfo- omega -[tris(1-phenyl ethyl) phenoxy]- ammonium salt	119432-41-6	Aquatic Chronic3; H412	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-006 01-2120761540-60	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): 1 specific concentration limit Skin Sens. 1; H317 >= 0,05 %	>= 0.025 - < 0.05
Substances with a workplace exposure limit:			
propane-1,2-diol	57-55-6 200-338-0 01-2119456809-23		>= 1 - < 10

For explanation of abbreviations see section 16.

### 4. FIRST-AID MEASURES

#### 4.1 Description of first aid measures

**General Advice:** Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre or physician, or going for treatment.

**If inhaled:** Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

**In case of skin contact:** Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**In case of eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

**If swallowed:** If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

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

Symptoms: Nonspecific. No symptoms known or expected.

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

Treatment: There is no specific antidote available. Treat symptomatically.

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### **5. FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

Suitable extinguishing media: Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Alcohol-resistant foam or Water spray

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

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

Specific hazards during firefighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

#### **5.3 Advice for fire-fighters**

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

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### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions: Refer to protective measures listed in sections 7 and 8.

#### **6.2 Environmental precautions**

Environmental precautions : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

#### **6.3 Methods and materials 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). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

#### **6.4 Reference to other sections**

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

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### **7. HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

Advice on safe handling : No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

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

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

#### **7.3 Specific end uses**

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

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## 8.EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
propane-1,2-diol	57-55-6	TWA (particles)	10 mg/m <sup>3</sup>	GB EH40
		TWA (Total vapour and particles)	150 ppm 474 mg/m <sup>3</sup>	GB EH40
Fludioxonil	131341-86-1	TWA	5 mg/m <sup>3</sup>	SYNGENTA

#### Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m3
	Consumers	Inhalation	Long-term local effects	10 mg/m3
	Consumers	Inhalation	Long-term systemic effects	30 mg/m3
	Workers	Inhalation	Long-term local effects	10 mg/m3
alcohols, C16-18 and C18-unsatd., ethoxylated	Workers	Inhalation	Long-term systemic effects	294 mg/m3
	Workers	Dermal	Long-term systemic effects	2080 mg/kg
	Consumers	Inhalation	Long-term systemic effects	87 mg/m3
	Consumers	Dermal	Long-term systemic effects	1250 mg/kg
	Consumers	Oral	Long-term systemic effects	25 mg/kg
calcium 4-[(5-chloro- 4-methyl-2- sulphonatophenyl)azo ]-3-hydroxy-2- naphthoate	Workers	Inhalation	Systemic effects	4.4 mg/m3
	Workers	Dermal	Systemic effects	0.57 mg/kg bw/day
	Consumers	Inhalation	Systemic effects	1.1 mg/m3
	Consumers	Dermal	Systemic effects	0.2 mg/kg bw/day
	Consumers	Oral	Systemic effects	0.6 mg/kg bw/day
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):

Substance name	Environmental	Compartment Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg
alcohols, C16-18 and C18- unsatd., ethoxylated	Fresh water	0.007 mg/l
	Freshwater - intermittent	0.1 mg/l
	Marine water	0.001 mg/l
	Sewage treatment plant	10 g/l
	Fresh water sediment	22.79 mg/kg
	Marine sediment	2.28 mg/kg
	Soil	1 mg/kg



Substance name	Environmental	Compartment Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg

## 8.2 Exposure controls

### Engineering Measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

### Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection Remarks : No special protective equipment required.

Skin and body protection : No special protective equipment required. Select skin and body protection based on the physical job requirements.

Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

**Appearance:** liquid  
**Colour:** red to dark red  
**Odour:** chalky  
**Odour Threshold:** No data available  
**pH:** 6 - 10, Concentration: 1 % w/v  
6 - 10, Concentration: 100 % w/v  
**Melting point/range:** No data available  
**Boiling point/boiling range:** No data available  
**Flash-Point:** Method: Pensky-Martens closed cup  
does not flash  
**Evaporation rate:** No data available  
**Flammability (solid, gas):** No data available  
**Upper explosion limit:** No data available  
**Lower explosion limit:** No data available  
**Relative vapour density:** No data available  
**Density:** 1.052 g/cm³ (20°C)  
**Solubility(ies)**  
**Solubility in other solvents:** No data available  
**Partition coefficient:**  
**n-octanol/water:** No data available  
**Auto-ignition temperature:** 490°C  
**Decomposition temperature:** No data available

## **Viscosity**

<b>Viscosity, dynamic:</b>	45.6 - 377 mPa.s (40°C) 54.4 - 441 mPa.s (20°C)
<b>Explosive Properties:</b>	Not explosive
<b>Oxidising properties:</b>	The substance or mixture is not classified as oxidizing.

## **9.2 Other Information**

<b>Surface tension:</b>	32.3 mN/m, 20°C
<b>Particle size :</b>	No data available

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## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

None reasonably foreseeable.

### **10.2 Chemical stability**

Stable under normal conditions.

### **10.3 Possibility of hazardous reactions**

Hazardous reactions: No dangerous reaction known under conditions of normal use.

### **10.4 Conditions to avoid**

Conditions to avoid: No decomposition if used as directed.

### **10.5 Incompatible materials**

Materials to avoid: None known.

### **10.6 Hazardous decomposition products**

Hazardous decomposition products: No hazardous decomposition products are known.

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## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects**

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

#### **Acute toxicity**

##### **Product:**

Acute oral toxicity :	LD50 (Rat, female): > 5,000 mg/kg
Acute dermal toxicity :	LD50 (Rat, male and female): > 5,050 mg/kg

##### **Components:**

##### **fludioxonil (ISO):**

Acute oral toxicity :	LD50 (Rat, male and female): > 5,000 mg/kg
Acute inhalation toxicity :	LC50 (Rat, male and female): > 2.6 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity :	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

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

Acute oral toxicity :	LD50 (Rat, male): 670 mg/kg
Acute dermal toxicity :	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

## **Skin corrosion/irritation**

##### **Product:**

Species: Rabbit  
Result: No skin irritation

##### **Components:**

alcohols, C16-18 and C18-unsatd., ethoxylated:

Result: Irritating to skin.

**fludioxonil (ISO):**

Species: Rabbit

Result: No skin irritation

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

Species : Rabbit

Result : Mild skin irritation

**Serious eye damage/eye irritation****Product:**

Species: Rabbit

Result: No eye irritation

**Components:****fludioxonil (ISO):**

Species: Rabbit

Result: No eye irritation

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

Species: Rabbit

Result: Risk of serious damage to eyes.

**Respiratory or skin sensitisation****Product:**

Test Type: Buehler Test

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**Components:****fludioxonil (ISO):**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

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

Result: Probability or evidence of skin sensitisation in humans

**Germ cell mutagenicity****Components:****fludioxonil (ISO):**

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

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

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

**Carcinogenicity****Components:****fludioxonil (ISO):**

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

**Reproductive toxicity****Components:****fludioxonil (ISO):**

Reproductive toxicity - Assessment: No toxicity to reproduction

**Repeated dose toxicity****Components:****fludioxonil (ISO):**

Reproductive toxicity - Assessment: No toxicity to reproduction

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### **Product:**

Toxicity to fish :	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 5.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 ( <i>Daphnia magna</i> (Water flea)): 37 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 ( <i>Raphidocelis subcapitata</i> (freshwater green alga)): 14 mg/l Exposure time: 72 h NOEC ( <i>Raphidocelis subcapitata</i> (freshwater green alga)): 2.0 mg/l End point: Growth rate Exposure time: 72 h

#### **Components:**

##### **alcohols, C16-18 and C18-unsatd., ethoxylated:**

Toxicity to fish:	LC50 (Fish): estimated 1.26 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Aquatic invertebrates (general)): 2.6 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	EC50 (algae): 2.3 mg/l Exposure time: 72 h EC10 (algae): 0.33 mg/l End point: Biomass Exposure time: 72 h

##### **fludioxonil (ISO):**

Toxicity to fish :	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 0.23 mg/l Exposure time: 96 h LC50 ( <i>Pimephales promelas</i> (fathead minnow)): 0.7 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 ( <i>Daphnia magna</i> (Water flea)): 0.4 mg/l Exposure time: 48 h EC50 ( <i>Americamysis</i> ): 0.27 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	ErC50 ( <i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.259 mg/l Exposure time: 96 h EC10 ( <i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.077 mg/l End point: Growth rate Exposure time: 96 h ErC50 ( <i>Skel etonema costatum</i> (marine diatom)): 0.43 mg/l Exposure time: 96 h NOErC ( <i>Skel etonema costatum</i> (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h
M-Factor (Acute aquatic toxicity):	1
Toxicity to microorganisms:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h NOEC: 0.04 mg/l Exposure time: 28 d
Toxicity to fish (Chronic toxicity):	Species: <i>Oncorhynchus mykiss</i> (rainbow trout) NOEC: 0.018 mg/l Exposure time: 116 d Species: <i>Pimephales promelas</i> (fathead minnow)

<p>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):</p> <p>M-Factor (Chronic aquatic toxicity) :</p> <p><b>poly(oxy-1,2-ethanediy), alpha-sulfo-omega-[tris(1-phenylethyl)phenoxy]-, ammonium salt:</b></p> <p>Toxicity to fish :</p> <p>Toxicity to daphnia and other aquatic invertebrates:</p> <p><b>1,2-benzisothiazol-3(2H)-one:</b></p> <p>Toxicity to fish :</p> <p>Toxicity to daphnia and other aquatic invertebrates:</p> <p>Toxicity to algae/aquatic plants:</p> <p>M-Factor (Acute aquatic toxicity):</p> <p>Toxicity to fish (Chronic toxicity):</p> <p>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):</p>	<p>NOEC: 0.035 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea)</p> <p>NOEC: 0.018 mg/l Exposure time: 28 d Species: <i>Americamysis</i></p> <p>10</p> <p>LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 33 mg/l Exposure time: 96 h</p> <p>EC50 (<i>Daphnia magna</i> (Water flea)): 24 mg/l Exposure time: 48 h</p> <p>LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 2.18 mg/l Exposure time: 96 h</p> <p>EC50 (<i>Daphnia magna</i> (Water flea)): 2.94 mg/l Exposure time: 48 h</p> <p>ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.15 mg/l Exposure time: 72 h</p> <p>EC10 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.04 mg/l End point: Growth rate Exposure time: 72 h</p> <p>1</p> <p>NOEC: 0.3 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout)</p> <p>NOEC: 1.7 mg/l Exposure time: 21 d Species: <i>Daphnia</i> (water flea)</p>
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## 12.2 Persistence and degradability

### Components:

alcohols, C16-18 and C18-unsatd., ethoxylated:

Biodegradability : Result: rapidly biodegradable

Remarks: Based on data from similar materials

### fluidioxonil (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 450 - 700 d

Remarks: Persistent in water.

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

Biodegradability : Result: rapidly degradable

## 12.3 Bioaccumulative potential

### Components:

### fluidioxonil (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

#### **12.4 Mobility in soil**

##### **Components:**

##### **fludioxonil (ISO):**

Distribution among environmental compartments: Remarks: immobile

Stability in soil: Dissipation time: 14 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

#### **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.

##### **Components:**

##### **fludioxonil (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

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### **13. DISPOSAL CONSIDERATIONS**

#### **13.1 Waste treatment methods**

**Product:** Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

**Contaminated packaging:** Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

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### **14. TRANSPORT INFORMATION**

#### **14.1 UN number**

Not regulated as a dangerous good

#### **14.2 UN proper shipping name**

Not regulated as a dangerous good

#### **14.3 Transport hazard class(es)**

Not regulated as a dangerous good

#### **14.4 Packing group**

Not regulated as a dangerous good

#### **14.5 Environmental hazards**

Not regulated as a dangerous good

#### **14.6 Special precautions for user**

Remarks: Not classified as dangerous in the meaning of transport regulations.

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

Not applicable for product as supplied.

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## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59.): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast): Not applicable

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

	Quantity 1	Quantity 2
E2 ENVIRONMENTAL HAZARDS	200 t	500 t

### Other regulations:

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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## 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.

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.

H412 : Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Acute aquatic toxicity

Aquatic Chronic : Chronic aquatic toxicity

Eye Dam. : Serious eye damage

Skin Irrit. : Skin irritation

Skin Sens. : Skin sensitisation

GB EH40 : UK, EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; TCSI - Taiwan Chemical Substance 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.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



