

**IMPORTANT INFORMATION**

FOR USE ONLY AS A HORTICULTURAL FUNGICIDE.

User: Professional

Crops/situations	Maximum individual dose (litres/product/ha)	Maximum number of treatments	Aquatic Buffer Zone
Managed amenity turf	3.0	2 per year	10 m

Other specific restrictions:

**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.****ADDITIONAL SAFETY INFORMATION (references to COSHH and LERAP apply to the UK use only)****(a) Operator protection**

Engineering controls 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 concentrate.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when applying by hand-held equipment.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WASH HANDS before meals and after work.

**(b) Environmental protection**

To protect aquatic organisms, respect an unsprayed buffer zone distance to surface water bodies in line with LERAP requirements.



DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 10 metres of the top of the bank of a static or flowing water body, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water. THIS CROP IS NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP HORIZONTAL BOOM SPRAYERS

SCHEME. This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) Scheme. The statutory buffer zone must be maintained and the distance recorded in the LERAP record form. The LERAP record form must be kept available for three years.

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from golf courses and other amenity areas.

**(c) Storage and disposal**

KEEP OUT OF THE REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

This leaflet is part of the approved Product Label.

## **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**

INSTRATA® Elite is a suspension concentrate formulation containing 80.3 g/l fludioxonil and 80.3 g/l difenoconazole.

### Difenoconazole

Difenoconazole has protective, curative and eradicator activity. It is rapidly absorbed by the assimilating parts of the plant, mostly within one hour of treatment. It is transported acropetally (upwards) in the xylem. This systemic translocation contributes to good distribution of the active ingredient within the plant tissue.

Difenoconazole is a member of the DMI-fungicides group (demethylation inhibitors). These materials act on the fungal pathogen inside the plant at the stage of first haustoria formation and stop disease development by interfering with sterol biosynthesis in fungal cell membranes.

### Fludioxonil

Fludioxonil is a long lasting contact fungicide belonging to the phenylpyrrole chemistry group, that provides broad-spectrum activity against a wide range of turf diseases. It is believed to inhibit transport-associated phosphorylation of glucose, which subsequently results in the inhibition of fungal mycelial growth.

## **RESTRICTIONS**

Prevent spray drift on to surrounding areas

DO NOT apply to turf under heat or moisture stress

For all applications, avoid spraying within 10m of unmanaged land (including rough grassland) to reduce effects on non-target insects or other arthropods.

## **DISEASES CONTROLLED**

INSTRATA ELITE is a contact and systemic fungicide for the control of the following diseases:

Fusarium Patch (*Microdochium nivale*)

Anthracnose (*Colletotrichum graminicola*) [moderate control]

Dollar Spot (*Sclerotinia homoeocarpa*)

Brown patch (*Rhizoctonia solani*)

Red Thread (*Laetisaria fuciformis*) [moderate control]

For optimum turf quality and disease control, use INSTRATA ELITE in conjunction with turf management practices that promote good plant health.

Correct identification of the disease(s) is essential in selecting the most appropriate control measures.

## **CROP SPECIFIC INFORMATION**

Apply when conditions are favourable for disease infection.

### **Crop Tolerance**

When used as recommended, INSTRATA ELITE is well tolerated by all common turf grass species but safety to newly sown turf has not been established.

### **Rates of Use**

Apply INSTRATA ELITE at 3 litres per hectare in 125-500 litres water per hectare.

For spot treatments, use 30 ml INSTRATA per 5 litres water per 100 sq. metres.

### **Timing**

Apply as a preventative spray when conditions become favourable to disease development.

## **RESISTANCE MANAGEMENT**

In order to minimise the likelihood of the development of resistance, it is recommended that INSTRATA ELITE should be used in a programme with products of different chemical groups.

INSTRATA ELITE contains difenoconazole and fludioxonil and applications should be made in accordance with the FRAG-UK guidelines.

Apply INSTRATA ELITE at full recommended rates. Utilize management practices, which encourage healthy turf and reduce turf stress.

## **APPLICATION**

### **VOLUME OF WATER AND SPRAYING**

This product may be applied through pedestrian controlled sprayers or vehicle mounted/drawn equipment and hand-held knapsack sprayers. Application equipment should be calibrated before use.

INSTRATA ELITE is recommended to be applied in 125-500 litres water/ha using vehicle mounted/trailed sprayers. Use 300 - 500 litres water/ha (3 - 5 litres water/100 m<sup>2</sup>) for spot treatments using a hand-held knapsack sprayer.

### **MIXING AND SPRAYING**

Tractor-mounted/trailed sprayers: Make sure the sprayer is set to give an even application at the correct volume and an even deposit. Half fill the spray tank with the required volume of clean water and start agitation. Add the required amount of INSTRATA ELITE to the spray tank. Agitate the mixture thoroughly before use and continue agitation during spraying. Thoroughly wash all spray equipment with water immediately after use.

Hand-held knapsack sprayers: Half fill the spray tank with clean water and add the required quantity of INSTRATA ELITE to the tank. Complete filling, mix thoroughly and use immediately.

Thoroughly wash all spraying equipment immediately after use.

Wash out containers thoroughly, preferably using an integrated pressure rinsing device, or manually rinse three times. Add washings to the sprayer at the time of filling. Complete filling to the required volume and continue to agitate throughout the spraying operation.

Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight). Make up only the amount of spray required for immediate use.

### **AFTER SPRAYING**

Thoroughly wash out sprayer according to manufacturer's guidelines and dispose of washings and clean containers according to DEFRA Code of Practice and local water authority guidelines.

### **OTHER INFORMATION**

1. Some diseases can quickly damage turf. Treatment at a late stage of disease development will be more difficult and can leave bare soil patches needing renovation.

2. Use preventative sprays, especially against diseases which occur in winter and early spring.
3. If diseases recur regularly, check management practices, especially fertilizer treatment as this can affect disease occurrence if either in excess or deficient.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack.

For further information please see [www.greencast.co.uk](http://www.greencast.co.uk)

INSTRATA ELITE is a trade mark of a Syngenta Group Company.

**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.

---

## Safety Data Sheet

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

#### 1.1 Product identifier

Product name INSTRATA ELITE  
Design Code A20323D

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

Use Fungicide

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

Company Syngenta UK Ltd  
CPC4, Capital Park,  
Fulbourn, Cambridge  
CB21 5XE  
Telephone (01223) 883400  
Telefax (01223) 882195  
Website www.syngenta.co.uk

#### 1.4 Emergency telephone number

Emergency telephone number: +44 (0) 1484 538444

---

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

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

Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.  
Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms



Signal Word Warning

Hazard H410

Very toxic to aquatic life with long lasting effects.

Statements

Supplemental EUH401

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

Hazard

Statements EUH208

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

Precautionary Statements	<b>Response:</b> P391	Collect spillage.
	<b>Disposal:</b> P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

### 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

#### Hazardous components

Chemical Name	CAS-No. EC No. Registration number	Classification	Concentration (% w/w)
fludioxonil	131341-86-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 10
difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 3 - < 10
disodium dodecyl(sulphonatophenoxy)benzenesulphonate	28519-02-0 249-063-8	Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	>= 0.025 - < 0.05
bronopol (INN)	52-51-7 200-143-0	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400	>= 0.025 - < 0.1

For explanation of abbreviations see section 16.

## **SECTION 4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

**General advice:** Have the product container, label or Safety Data Sheet with you when calling the 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**

Symptoms : No information available.

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

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

---

## **SECTION 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

Use 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 Specific hazards arising from the substance or mixture**

Specific hazards during fire fighting: 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 firefighters**

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.

---



## SECTION 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).

### 6.4 Reference to other sections

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

---

## SECTION 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 feedingsuffs.

### 7.3 Specific end use(s)

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

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
fludioxonil	131341-86-1	TWA	5 mg/m <sup>3</sup>	SYNGENTA
difenoconazole	119446-68-3	TWA	5 mg/m <sup>3</sup>	SYNGENTA

### 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.

---

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

Appearance : liquid

Density : 1.1 g/cm<sup>3</sup> (25 °C)

### **9.2 Other Information**

No data available

---

## **SECTION 10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

See section 10.3 "Possibility of hazardous reactions".

### **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**

Combustion or thermal decomposition will evolve toxic and irritant vapours.

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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

#### **Acute toxicity**

##### **Product:**

Acute oral toxicity :

LD50 (Rat, female): > 2,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity :

LC50 (Rat): > 2.65 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): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

**Components:**

**fludioxonil:**

**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

**difenoconazole:**

**Acute oral toxicity :**

LD50 (Rat, male and female): 1,453 mg/kg

Assessment: The component/mixture is moderately toxic after single ingestion.

**Acute inhalation toxicity :**

LC50 (Rat, male and female): > 3,300 mg/m<sup>3</sup>

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

**Acute dermal toxicity :**

LD50 (Rabbit, male and female): > 2,010 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

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

**Acute oral toxicity :**

Assessment: The component/mixture is moderately toxic after single ingestion.

**bronopol (INN):**

**Acute oral toxicity :**

Assessment: The component/mixture is moderately toxic after single ingestion.

**Acute dermal toxicity :**

Assessment: The component/mixture is moderately toxic after single contact with skin.

**Skin corrosion/irritation**

**Product:**

Species: Rabbit

Result: No skin irritation

**Components:**

**fludioxonil:**

Species: Rabbit

Result: No skin irritation

**difenoconazole:**

Species: Rabbit

Result: No skin irritation

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

Result: Irritating to skin.

**bronopol (INN):**

Result: Irritating to skin.

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

Species: Rabbit

Result: No eye irritation

**Components:****fludioxonil:**

Species: Rabbit

Result: No eye irritation

**difenoconazole:**

Species: Rabbit

Result: Irritation to eyes, reversing within 7 days

**disodium dodecyl(sulphonatophenoxy)benzenesulphonate:**

Result: Risk of serious damage to eyes.

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

Result: Risk of serious damage to eyes.

**bronopol (INN):**

Result: Risk of serious damage to eyes.

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

Species: Mouse

Result: Did not cause sensitisation on laboratory animals.

**Components:****fludioxonil:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**difenoconazole:**

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:**

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

**difenoconazole:**

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

Carcinogenicity

**Components:****fludioxonil:**

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

**difenoconazole:**

Carcinogenicity - Assessment: Weight of evidence does not support classification as a carcinogen, In a two-year feeding study of mice, an oncogenic effect was seen in the livers of males and females., The observed tumors do not appear to be relevant for men.

**Reproductive toxicity****Components:****fludioxonil:**

Reproductive toxicity - Assessment: No toxicity to reproduction

**difenoconazole:**

Reproductive toxicity - Assessment: No toxicity to reproduction

**STOT - single exposure****Components:****bronopol (INN):**

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**Repeated dose toxicity****Components:****fludioxonil:**

Remarks: No adverse effect has been observed in chronic toxicity tests.

**difenoconazole:**

Remarks: No adverse effect has been observed in chronic toxicity tests.

---

**SECTION 12. ECOLOGICAL INFORMATION****12.1 Toxicity****Product:****Toxicity to fish :**

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 8.1 mg/l

Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates:**

EC50 (*Daphnia magna* (Water flea)): 15 mg/l

Exposure time: 48 h

**Toxicity to algae :**

EC50 (*Pseudokirchneriella subcapitata* (green algae)): 7.8 mg/l

Exposure time: 96 h

## Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### **Components:**

#### **fludioxonil:**

##### **Toxicity to fish :**

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.23 mg/l

Exposure time: 96 h

##### **Toxicity to daphnia and other aquatic invertebrates:**

EC50 (*Daphnia magna* (Water flea)): 0.4 mg/l

Exposure time: 48 h

Toxicity to algae : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 0.44 mg/l

Exposure time: 96 h

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.132 mg/l

Exposure time: 96 h

ErC50 (*Skeletonema costatum* (marine diatom)): 0.43 mg/l

Exposure time: 96 h

NOEC (*Skeletonema costatum* (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): > 100 mg/l

Exposure time: 3 h

##### **Toxicity to fish (Chronic toxicity):**

NOEC: 0.04 mg/l

Exposure time: 28 d

Species: *Oncorhynchus mykiss* (rainbow trout)

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

NOEC: 0.035 mg/l

Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

M-Factor (Chronic aquatic toxicity): 1

#### **difenoconazole:**

##### **Toxicity to fish :**

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1.1 mg/l

Exposure time: 96 h

##### **Toxicity to daphnia and other aquatic invertebrates:**

EC50 (*Daphnia magna* (Water flea)): 0.77 mg/l

Exposure time: 48 h

EC50 (*Americamysis bahia* (Mysid shrimp)): 0.15 mg/l

Exposure time: 96 h

Toxicity to algae : EC50 (*Navicula pelliculosa* (Freshwater diatom)): 0.091 mg/l

Exposure time: 72 h

NOEC (*Navicula pelliculosa* (Freshwater diatom)): 0.053 mg/l

Exposure time: 72 h

NOEC (*Desmodesmus subspicatus* (green algae)): 0.0086 mg/l

Exposure time: 72 h

M-Factor (Acute aquatic toxicity): 10

**Toxicity to microorganisms :**

EC50 (activated sludge): > 100 mg/l

Exposure time: 3 h

**Toxicity to fish (Chronic toxicity):**

NOEC: 0.0076 mg/l

Exposure time: 34 d

Species: *Pimephales promelas* (fathead minnow)

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

NOEC: 0.0056 mg/l

Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

NOEC: 0.0046 mg/l

Exposure time: 28 d

Species: *Americamysis*

M-Factor (Chronic aquatic toxicity): 10

**disodium dodecyl(sulphonatophenoxy)benzenesulphonate:**

**Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

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

**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

**bronopol (INN):**

M-Factor (Acute aquatic toxicity): 10

**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

## 12.2 Persistence and degradability

### Components:

**fludioxonil:**

Biodegradability : Result: Not readily biodegradable.

**difenoconazole:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 d

Remarks: Product is not persistent.

## 12.3 Bioaccumulative potential

### Components:

**fludioxonil:**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: noctanol/water: log Pow: 4.12 (25 °C)

**difenoconazole:**

Bioaccumulation : Remarks: High bioaccumulation potential.

Partition coefficient: noctanol/water: log Pow: 4.4 (25 °C)

## 12.4 Mobility in soil

### **Components:**

#### **fludioxonil:**

Distribution among environmental compartments: Remarks: immobile

Stability in soil : Percentage dissipation: 50 % (DT50: 14 d)

Remarks: Product is not persistent.

#### **difenoconazole:**

Distribution among environmental compartments: Remarks: Low mobility in soil.

Stability in soil : Percentage dissipation: 50 % (DT50: 149 - 187 d)

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:**

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).

#### **difenoconazole:**

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:**

Additional ecological information: Classification of the product is based on the summation of the concentrations of classified components.

### **Components:**

#### **fludioxonil:**

Additional ecological information: No data available

#### **difenoconazole:**

Additional ecological information: No data available

#### **disodium dodecyl(sulphonatophenoxy)benzenesulphonate:**

Additional ecological information: No data available

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

Additional ecological information: No data available

#### **bronopol (INN):**

Additional ecological information: No data available

---



## **SECTION 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 to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

---

## **SECTION 14. TRANSPORT INFORMATION**

### **14.1 UN number**

ADN : UN 3082  
ADR : UN 3082  
RID : UN 3082  
IMDG : UN 3082  
IATA : UN 3082

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

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(FLUDIOXONIL AND DIFENOCONAZOLE)  
ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(FLUDIOXONIL AND DIFENOCONAZOLE)  
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(FLUDIOXONIL AND DIFENOCONAZOLE)  
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(FLUDIOXONIL AND DIFENOCONAZOLE)  
IATA : Environmentally hazardous substance, liquid, n.o.s.  
(FLUDIOXONIL AND DIFENOCONAZOLE)

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

ADN : 9  
ADR : 9  
RID : 9  
IMDG : 9  
IATA : 9

### **14.4 Packing group**

#### **ADN**

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9

#### **ADR**

Packing group : III  
Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (E)

**RID**

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

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**

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Marine pollutant : yes

IATA (Cargo)

Marine pollutant : yes

**14.6 Special precautions for user**

Not applicable

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

Not applicable for product as supplied.

## SECTION 15. REGULATORY INFORMATION

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

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
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
Other regulations	Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. A chemical safety assessment is not required for this substance.		

### 15.2 Chemical safety assessment

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

---

## SECTION 16. OTHER INFORMATION

Approval number, MAPP 17976

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 22/09/2016, version 3 with local amendment.

### Full text of H-statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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.

### Further information

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.







**IMPORTANT INFORMATION**

FOR USE ONLY AS A HORTICULTURAL FUNGICIDE.

User: Professional

Crops/situations	Maximum individual dose (litres/product/ha)	Maximum number of treatments	Aquatic Buffer Zone
Managed amenity turf	3.0	2 per year	10 m

Other specific restrictions:

**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.**

**ADDITIONAL SAFETY INFORMATION (references to COSHH and LERAP apply to the UK use only)****(a) Operator protection**

Engineering controls 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 concentrate.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when applying by hand-held equipment.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WASH HANDS before meals and after work.

**(b) Environmental protection**

To protect aquatic organisms, respect an unsprayed buffer zone distance to surface water bodies in line with LERAP requirements.



DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 10 metres of the top of the bank of a static or flowing water body, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water. THIS CROP IS NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP HORIZONTAL BOOM SPRAYERS

SCHEME. This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) Scheme. The statutory buffer zone must be maintained and the distance recorded in the LERAP record form. The LERAP record form must be kept available for three years.

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from golf courses and other amenity areas.

**(c) Storage and disposal**

KEEP OUT OF THE REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

