Ascernity®

Fungicide

syngenta®

GROUP 7 | 3 FUNGICIDES

F

Product registration number: MAPP 19544 **UFI:** 52Q0-E02H-K000-2YM6

ASCERNITY® is a soluble concentration formulation containing 23.6 g/l benzovindiflupyr and 78.8 g/l difenoconazole.

A broad spectrum foliar fungicide with both contact and systemic properties for moderate control of Fusarium Patch (*Microdochium nivale*) and a reduction in levels of Dollar Spot (*Sclerotinia homoeocarpa*) and Anthracnose (*Colletotrichum graminicola*) on golf greens and tees and sports turf (stadiums and intensively managed sports turf).

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

Approval Holder and Marketing Company
Syngenta UK Limited
CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE
Tel: (1223) 883400

In case of toxic or transport emergency ring +44 (0) 1484 538444 anytime

PROTECT FROM FROST
SHAKE WELL BEFORE USE

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

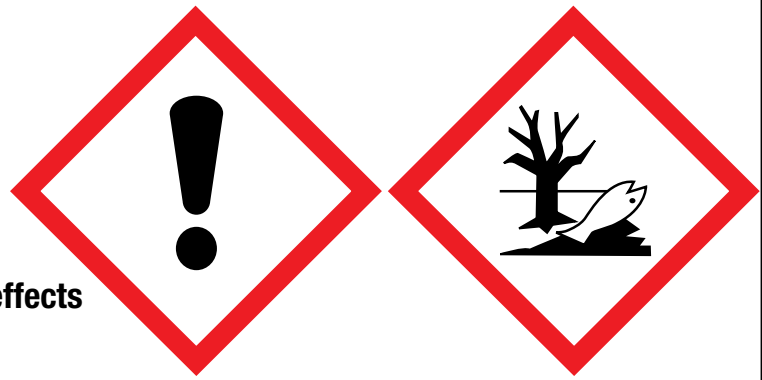
The Voluntary Initiative

L1109069 GBRI/09B PPE 4191308

3 litres

ASCERNITY®

A soluble concentrate formulation containing 23.6 g/l benzovindiflupyr and 78.8 g/l difenoconazole.



Warning
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled
May cause respiratory irritation
Very toxic to aquatic life with long lasting effects
Avoid breathing mist
Wash the skin thoroughly after handling
Wear protective gloves/protective clothing /eye protection/face protection
If eye irritation persists: Get medical advice/attention.
Collect spillage.
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.
To avoid risks to human health and the environment comply with the instructions for use.

MAPP 19544 **UFI:** 52Q0-E02H-K000-2YM6

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crops/ situations	Maximum individual dose: (l product / ha)	Maximum total dose: (l product/ ha / year)	Maximum number of treatments:	Latest time of application:	Aquatic buffer zone distance (metres):
Managed amenity turf (golf greens and tees and sports turf)	3	6	2 per year	Established turf	6

Other specific restrictions:

- A minimum interval of 14 days must be observed between applications
- This product must not be applied via hand-held equipment.
- Buffer zones greater than 5m are NOT eligible for buffer zone reduction under the LERAP scheme.
- Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating for that equipment as published on HSE Chemicals Regulation Division's website. These operating conditions must be maintained until the operator is 30m from the top of the bank of any surface water bodies.
- When applied to enclosed professional sports turf, application must only be made where access to wildlife is extremely limited.

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.

SAFETY PRECAUTIONS

(a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
Operators must WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

(b) Environmental protection

To protect aquatic organisms, respect an unsprayed buffer zone to surface water bodies as specified for the crop.
HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH THREE STAR DRIFT REDUCING TECHNOLOGY for all uses.
Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating for that equipment as published on HSE Chemicals Regulation Directorate's website. Maintain three star operating conditions until 30 m from the top of the bank of any surface water bodies
Crops/situations with >5m buffer zone:
Since there is a risk to aquatic life from use, direct spray from horizontal boom sprayers must not be allowed to fall within the distance specified for the crop of the top of the bank of any static or flowing waterbody or within 1m of the top of a ditch which is dry at the time of application. Spray must be aimed away from water.
Buffer zones must be measured in accordance with the guidance set out in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers' available from HSE Chemicals Regulation Division's website and any amendments made to it.
The results of the LERAP must be recorded in written form and must be available for a period of three years for inspection to any person entitled to exercise enforcement powers under or in connection with the Plant Protection Products Regulations 2011 or the Plant Protection Products (Sustainable Use) Regulations 2012. (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied).
Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains.

(c) Storage and disposal

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

ASCERNITY® is a soluble liquid formulation containing 23.6 g/l benzovindiflupyr and 78.9 g/l difenoconazole.

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

ASCERNITY is a contact and systemic fungicide which:

Moderately controls Fusarium Patch (*Microdochium nivale*)
Reduces levels of Anthracnose (*Colletotrichum graminicola*)
Reduces levels of Dollar Spot (*Sclerotinia homoeocarpa*)

For optimum turf quality and disease control, use ASCERNITY 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, or at the very beginning of disease symptom expression.

Crop Tolerance

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

Rates of Use

Apply ASCERNITY at 3 litres per hectare in 125-500 litres water per hectare.
For spot treatments, use 30 ml ASCERNITY 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 ASCERNITY should be used in a programme with products of different chemical groups.

Ascernity contains difenconazole and benzovindiflupyr.
Difenoconazole is a DMI (DeMethylation Inhibitor) or SBI (Sterol Biosynthesis Inhibitor) fungicide (MoA group G1, FRAC code 3)
Benzovindiflupyr is a Succinate DeHydrogenase Inhibitor (SDHI) fungicides (MoA group C2, FRAC code 7). Applications should be made in accordance with FRAG-UK guidelines

Apply ASCERNITY 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. Application equipment should be calibrated before use.

ASCERNITY is recommended to be applied in 125-500 litres water/ha using vehicle mounted/trailed sprayers.

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 ASCERNITY 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. Effectiveness using three star drift reduction technology may be reduced.

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 local 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

ASCERNITY® 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 - V1.1

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

1.1 Product identifier

Trade name: ASCERNITY
Design code: A19188B
Product Registration Number: MAPP 19544

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

Use of the Substance/Mixture: Fungicide

1.3 Details of the supplier of the safety data sheet Company

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 telephone number +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

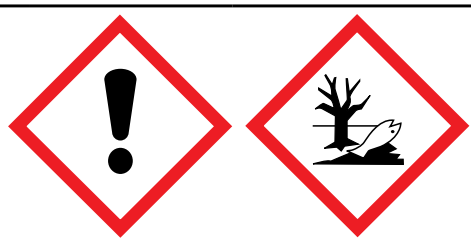
2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 - H302: Harmful if swallowed.
Eye irritation, Category 2 - H319: Causes serious eye irritation.
Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.
H332: Harmful if inhaled.
H315: Causes skin irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms		
Hazard Statements	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H332	Harmful if inhaled.
	H335	May cause respiratory irritation.
	H410	Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	EUH401	To avoid risks to human health and the environment comply with the instructions for use.
Precautionary Statements	P261	Avoid breathing mist
	P264	Wash hands and face thoroughly after handling.
	P280	Wear protective gloves/ protective clothing/ eye protection/face protection.
	P337+P313	If eye irritation persists: Get medical advice/ attention.
	P391	Collect spillage.
	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.

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)
Propanoic acid, 2-hydroxy-, butyl ester, (2S)-	34451-19-9 205-316-4	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 30 - < 50
difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 2.5 - < 10
benzovindiflupyr (ISO)	1072957-71-1 616-218-00-X 01-2119929229-31	Acute Tox. 3; H301 Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 1 - < 2.5

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 center 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: 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.

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: Wear full protective clothing and self-contained breathing apparatus. 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). 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.

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 feedingstuffs.

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
Propanoic acid, 2-hydroxy-, butyl ester, (2S)-	34451-19-9	OELV - 8 hrs (TWA)	5 ppm 25 mg/m3	IE OEL
	Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used			
difenoconazole	119446-68-3	TWA	5 mg/m3	Syngenta
benzovindiflupyr (ISO)	1072957-71-1	TWA	1 mg/m3	Syngenta

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

Substance name	End Use	Exposure routes	Potential health effects	Value
benzovindiflupyr (ISO)	Workers	Inhalation	Long-term systemic effects	0.478 mg/m^3
	Workers	Inhalation	Acute systemic effects	1.13 mg/m^3

Substance name	End Use	Exposure routes	Potential health effects	Value
	Workers	Dermal	Long-term systemic effects	3.33 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.119 mg/m^3
	Consumers	Dermal	Long-term systemic effects	1.67 mg/kg
	Consumers	Oral	Long-term systemic effects	0.049 mg/kg

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

Substance name	Environmental Compartment	Value
benzovindiflupyr (ISO)	Fresh water	0.000095 mg/l
	Secondary poisoning	2 mg/kg
	Soil	0.041 mg/kg
	Marine water	0.000009 mg/l
	Fresh water sediment	0.053 mg/kg
	Sewage treatment plant	100 mg/l
	Marine sediment	0.005 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. If airborne dust is generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection: Tightly fitting safety goggles

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Use eye protection according to EN 166.

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
Colour:	No data available
Odour:	No data available
Odour Threshold:	No data available
pH:	No data available
Melting point/range:	No data available
Boiling Point/Boiling Range:	No data available
Flash-Point:	80 °C. Method: Pensky-Martens closed cup
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Vapour pressure:	No data available
Relative vapour density:	No data available
Density:	1.054 g/cm^3
Solubility in other solvents:	No data available
Partition Coefficient n-octanol/water	No data available
Auto-ignition temperature:	335 °C
Decomposition temperature:	No data available
Viscosity, dynamic:	No data available
Explosive Properties:	Not explosive
Oxidising properties:	The substance or mixture is not classified as oxidizing.

9.2 Other Information

No data available

SECTION 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.

SECTION 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): 1,030 mg/kg Remarks: Based on data from similar materials
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 Remarks: Based on data from similar materials
Acute dermal toxicity:	LD50 (Rat, male and female): > 5,000 mg/kg Remarks: Based on data from similar materials

Components:

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/m3 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

benzovindiflupyr (ISO):

Acute oral toxicity :	LD50 (Rat, female): 55 mg/kg Acute toxicity estimate: 100.0 mg/kg Method: Converted acute toxicity point estimate
Acute inhalation toxicity :	LC50 (Rat, male and female): > 0.56 mg/l Exposure time: 4 h Test atmosphere: dust/mist
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

Remarks: Based on data from similar materials

Components:
Propanoic acid, 2-hydroxy-, butyl ester, (2S)-:
Result : Irritating to skin.
difenoconazole:
Species : Rabbit
Result : No skin irritation
benzovindiflupyr (ISO):
Species : Rabbit
Result : No skin irritation
Serious eye damage/eye irritation
Product:
Species : Rabbit
Result : Irritation to eyes, reversing within 21 days
Remarks : Based on data from similar materials
Components:
Propanoic acid, 2-hydroxy-, butyl ester, (2S)-:
Result : Eye irritation
difenoconazole:
Species : Rabbit
Result : Irritation to eyes, reversing within 7 days
benzovindiflupyr (ISO):
Species : Rabbit
Result : No eye irritation
Respiratory or skin sensitisation
Product:
Test Type : Buehler Test
Species : Rabbit
Result : Did not cause sensitisation on laboratory animals.
Remarks : Based on data from similar materials
Components:
difenoconazole:
Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.
benzovindiflupyr (ISO):
Test Type : mouse lymphoma cells
Species : Mouse
Result : Did not cause sensitisation on laboratory animals.
Germ cell mutagenicity
Components:
difenoconazole:
Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.
benzovindiflupyr (ISO):
Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity
Components:
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.
benzovindiflupyr (ISO):
Carcinogenicity - Assessment: Weight of evidence does not support classification as a carcinogen, This substance has been reported to cause tumours in certain animal species., There is no evidence that these findings are relevant to humans.

Reproductive toxicity
Components:
difenoconazole:
Reproductive toxicity - Assessment: No toxicity to reproduction
benzovindiflupyr (ISO):
Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure
Components:
benzovindiflupyr (ISO):
Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure
Components:
benzovindiflupyr (ISO):
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity
Components:
difenoconazole:
Remarks : No adverse effect has been observed in chronic toxicity tests.
benzovindiflupyr (ISO):
Remarks : No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
Components:
Propanoic acid, 2-hydroxy-, butyl ester, (2S)-:

Toxicity to fish :	LC50 (Fish): 75 mg/l Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity :	This product has no known ecotoxicological effects.
Chronic aquatic toxicity :	This product has no known ecotoxicological effects.
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): 0.15 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	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 ErC50 (Desmodesmus subspicatus (green algae)): 0.0876 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: 0.0023 mg/l Exposure time: 28 d Species: Americamysis
M-Factor (Chronic aquatic toxicity):	10
benzovindiflupyr (ISO):	
Toxicity to fish :	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.0091 mg/l Exposure time: 96 h

	LC50 (Cyprinus carpio (Carp)): 0.0035 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Americamysis): 0.056 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 0.89 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.42 mg/l End point: Growth rate Exposure time: 96 h ErC50 (Skeletonema costatum (marine diatom)): 0.55 mg/l Exposure time: 72 h NOEC (Skeletonema costatum (marine diatom)): 0.4 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms :	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.00095 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow) Test Type: Early-life Stage
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0.015 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.0074 mg/l Exposure time: 28 d Species: Americamysis
M-Factor (Chronic aquatic toxicity):	100

12.2 Persistence and degradability

Components:

Propanoic acid, 2-hydroxy-, butyl ester, (2S)-:

Biodegradability : Result: Readily biodegradable.

difenoconazole:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 d

Remarks: Product is not persistent.

benzovindiflupyr (ISO):

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

difenoconazole:

Bioaccumulation : Remarks: High bioaccumulation potential.

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

benzovindiflupyr (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n octanol/water: log Pow: 4.3 (25 °C)

12.4 Mobility in soil

Components:

difenoconazole:

Distribution among environ mental compartments: Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 149 - 187 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

benzovindiflupyr (ISO):

Distribution among environ mental compartments: Remarks: Slightly mobile in soils.

12.5 Results of PBT and vPvB assessment

Product:

Assessment: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

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:

difenoconazole:

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

benzovindiflupyr (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).

12.6 Other adverse effects

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.

Waste Code: 150110, packaging containing residues of or contaminated by hazardous substances.

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

SECTION 15. REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).: Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: 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
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. Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

Full text of H-statements

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation**.**
H331 Fatal if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.: Acute toxicity
Aquatic Acute: Short-term (acute) aquatic hazard
Aquatic Chronic: Long-term (chronic) aquatic hazard

Eye Irrit.:	Eye irritation
Skin Irrit.:	Skin irritation
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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

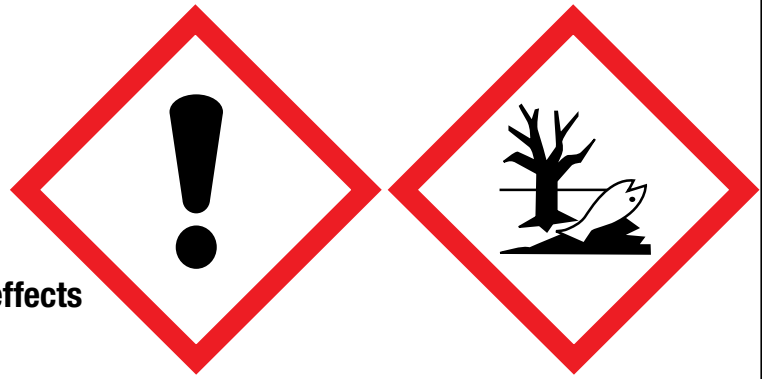
Further information

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H302	Based on product data or assessment
Eye Irrit. 2	H319	Based on product data or assessment
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method
	H332	
	H315	

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.

ASCERNITY®

A soluble concentrate formulation containing 23.6 g/l benzovindiflupyr and 78.8 g/l difenoconazole.



Warning
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled
May cause respiratory irritation
Very toxic to aquatic life with long lasting effects
Avoid breathing mist
Wash the skin thoroughly after handling
Wear protective gloves/protective clothing /eye protection/face protection
If eye irritation persists: Get medical advice/attention.
Collect spillage.
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.
To avoid risks to human health and the environment comply with the instructions for use.

MAPP 19544 **UFI:** 52Q0-E02H-K000-2YM6

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crops/ situations	Maximum individual dose: (l product / ha)	Maximum total dose: (l product/ ha / year)	Maximum number of treatments:	Latest time of application:	Aquatic buffer zone distance (metres):
Managed amenity turf (golf greens and tees and sports turf)	3	6	2 per year	Established turf	6

Other specific restrictions:

- A minimum interval of 14 days must be observed between applications
- This product must not be applied via hand-held equipment.
- Buffer zones greater than 5m are NOT eligible for buffer zone reduction under the LERAP scheme.
- Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating for that equipment as published on HSE Chemicals Regulation Division's website. These operating conditions must be maintained until the operator is 30m from the top of the bank of any surface water bodies.
- When applied to enclosed professional sports turf, application must only be made where access to wildlife is extremely limited.

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.

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 eradicant 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^2) 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

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 Statements	H410	Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	EUH401	To avoid risks to human health and the environment comply with the instructions for use.
	EUH208	Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

Precautionary Statements	**Response:**	
	P391	Collect spillage.
	Disposal:	
	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)benzen esulphonate	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 feedingstuffs.

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^3	SYNGENTA
difenoconazole	119446-68-3	TWA	5 mg/m^3	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^3 (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/m3
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.

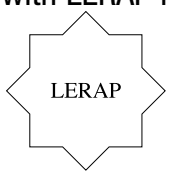
ADDITIONAL SAFETY INFORMATION (references to COSHH and LERAP apply to the UK use only)

(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.

APPROVED LABEL TEXT

MEDALLION TL

F

Product registration number: MAPP 15287

MEDALLION TL is a suspension concentrate formulation containing 125 g/l fludioxonil.

A broad spectrum foliar fungicide with protectant and contact properties for control of Fusarium patch (*Microdochium nivale*), useful levels of control of Leaf Spot (*Drechslera* spp.) and reduction of Anthracnose (*Colletotrichum graminicola*) on managed amenity turf and amenity grassland.

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

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

The Voluntary Initiative

Net contents 3 litres

Syngenta Crop Protection UK Limited
CPC4 Capital Park
Fulbourn
Cambridge CB21 5XE
Tel: Cambridge (01223) 883400

In case of toxic or transport emergency ring +44 (0)1484 538444 any time

PROTECT FROM FROST

Product code / Print date /

Batch Number

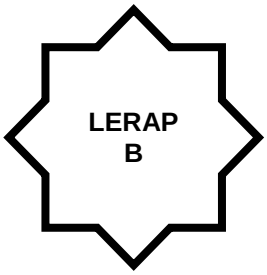
SAFETY PRECAUTIONS

(a) Operator Protection

WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.

(b) Environmental protection

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



DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1 m of the top of the bank of a static or flowing water body. Aim spray away from water.

This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) Scheme. Before each spraying operation from a horizontal boom sprayer or broadcast air assisted sprayer, either a LERAP must be carried out in accordance with CRD published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection 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 yards and roads.

(c) Storage and disposal

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 other purpose.

MEDALLION TL

DANGEROUS FOR THE ENVIRONMENT

MEDALLION TL is a suspension concentrate formulation containing 125 g/l fludioxonil.

TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

Keep out of the reach of children.
Keep away from food, drink and animal feeding stuffs.
When using, do not eat, drink or smoke.
This material and its container must be disposed of in a safe way.
Use appropriate containment to avoid environmental contamination.

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

IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL FUNGICIDE

For use on:

Crops	Maximum individual dose (product/ha)	Maximum number of treatments
Managed amenity turf and amenity grassland	3 litres	4 per year

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.

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

MEDALLION TL is a suspension concentrate formulation containing 125 g/l 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 when ground is frozen or during drought.
DO NOT apply to turf under heat or moisture stress.

DISEASES CONTROLLED

MEDALLION TL is a broad spectrum foliar fungicide with protectant and contact properties for the control of the following diseases in managed amenity turf and amenity grassland:

- Fusarium Patch (*Microdochium nivale)*
- Leaf Spot (*Drechslera* spp.)* [useful levels of control]
- Anthracnose (*Colletotrichum graminicola*) [reduction]

* Qualified minor use recommendation made on the basis of limited data.

For optimum turf quality and disease control, use MEDALLION TL 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

Begin applications when conditions are favourable for disease infection, at the very beginning of disease symptom expression.

Rates of Use

Apply 3 litres MEDALLION TL per hectare in 125-500 litres water per hectare.
For spot treatments, use 30 ml of MEDALLION TL in 1.25-5 litres of water to treat an area of 100 square metres.

Timing

Apply in a preventative spray programme, starting when conditions become favourable for disease development. Apply 3 litres MEDALLION TL per hectare with a maximum number of 4 sprays per year. A minimum interval of 14 days should be observed between applications.

RESISTANCE MANAGEMENT

Some turf disease pathogens are known to have developed resistance to products used repeatedly for their control. In order to minimise the likelihood of the development of resistance, it is recommended that MEDALLION TL should be used in a programme with products of different chemical groups.

Use MEDALLION TL in a disease control programme, alternating treatments with other fungicides having different modes of action.

MEDALLION TL contains fludioxonil (a phenylpyrrole) and applications should be made in accordance with FRAC guidelines.

Apply MEDALLION TL at full recommended rates. Utilize management practices which encourage healthy turf and reduce turf stress.

APPLICATION

VOLUME OF WATER AND SPRAYING

MEDALLION TL may be applied through all types of spray equipment commonly used for making ground applications. Application equipment should be calibrated before use.

MEDALLION TL is recommended to be applied in 125-500 litres water/ha with all application methods.

MIXING AND SPRAYING

Tractor-mounted/trailed sprayers: Make sure the sprayer is clean and 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 MEDALLION TL 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 and knapsack sprayers: Half fill the spray tank with clean water and add the required quantity of MEDALLION TL 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.

For further information please see www.greencast.co.uk or www.greencast.ie

COMPANY ADVISORY 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.

Good Field Practice

As part of our Product Stewardship policy, Syngenta Crop Protection recommend the following precautions should also be observed:

- Wear appropriate clothing - coveralls and protective gloves, when handling the concentrate.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at user's risk.