



Fungicide



Product registration number:
MAPP 13536 PCS No. 05062



Water dispersible granule formulation containing
500g/kg azoxystrobin.

A systemic strobilurin fungicide for the control of Fusarium
patch, Take-all patch, Anthracnose, Brown patch, Leaf spot /
Melting out, Rust diseases and Type 2 Fairy Rings.

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

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

Product names marked ® or ™, the ALLIANCE FRAME
the SYNGENTA Logo and the PURPOSE ICON
are Trademarks of a Syngenta Group Company

500 g

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



HERITAGE

FOR PROFESSIONAL USE ONLY

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

Contains 500g/kg azoxystrobin as a water dispersible granule.



Warning.

Very toxic to aquatic life with long lasting effects.

Avoid release to the environment.

Collect spillage.

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

MAPP 13536 PCS 05062

IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL FUNGICIDE.

For use on managed Amenity Turf.

Maximum individual dose: 0.5kg product per hectare

Maximum number of treatments: Four per annum

Latest time of application: Not applicable

**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.**

Approval Holder and UK Marketing Company

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PROTECT FROM FROST.

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ADDITIONAL SAFETY INFORMATION

(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 GLOVES when handling the concentrate or handling contaminated surfaces.

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 eating and drinking and after work.

(b) Environmental protection

RISK TO NON-TARGET INSECTS OR OTHER ARTHROPODS. See Directions for Use.

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, either a LERAP must be carried out in accordance with CRD's 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 farmyards and roads.

(c) Storage and disposal

Store away from seeds, fertilizers and composts.

WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank and dispose of safely.

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

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.

RESTRICTIONS

Prevent spray drift on to surrounding areas. Do not apply when ground is frozen or during drought.

Avoid spraying within 5m of the field boundary to reduce effects on non-target insects or other arthropods.

Do not use HERITAGE where there is a risk of spray drift onto neighbouring apple, crab apple, cherry, plum trees or privet. DO NOT use equipment used to apply HERITAGE to treat these crops as unacceptable damage may occur.

DISEASES CONTROLLED

HERITAGE is an effective systemic fungicide, providing control of Fusarium Patch disease caused by *Microdochium nivale*, Take-All Patch disease caused by *Gaeumannomyces graminis*, Anthracnose caused by *Colletotrichum graminicola* (moderate control), Brown patch caused by *Rhizoctonia solani*, Leaf spot / Melting out caused by *Drechslera poae*, Rust diseases caused by *Puccinia* spp. and Type 2 Fairy Rings * in managed established amenity turf and amenity grassland.

* QUALIFIED MINOR USE RECOMMENDATION. On the basis of limited evidence HERITAGE will reduce the effects of Type 2 Fairy Rings.

HERITAGE contains the strobilurin fungicide azoxystrobin (QoI).

RESISTANCE MANAGEMENT

Some turf disease pathogens are known to have developed resistance to products used repeatedly for their control. To ensure best control, HERITAGE should be applied at full use rates following the guidance below.

Do not apply more than 2 sequential applications of HERITAGE or any product containing a QoI fungicide.

Alternate with a fungicide having a different mode of action.

Do not apply more than 4 applications per year of any product containing a QoI fungicide.

For further advice on resistance management in turf contact your agronomist or specialist advisor and visit the FRAG-UK website.

CROP SPECIFIC INFORMATION

Best results will be achieved when HERITAGE is applied as a preventive treatment at the very earliest stages of disease symptom expression.

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

Fusarium Patch (*Microdochium nivale*), Anthracnose (*Colletotrichum graminicola*) – moderate control, Brown patch (*Rhizoctonia solani*), Leaf spot / Melting out (*Drechslera poae*), Rust diseases (*Puccinia spp.*)

Use HERITAGE in a disease control programme, alternating applications of HERITAGE with fungicides with different modes of action.

The total number of HERITAGE applications applied per annum must not exceed a third of the total number of fungicide applications, up to a maximum of 4 applications. Do not apply more than 2 sequential HERITAGE applications.

Take All Patch (*Gaeumannomyces graminis*)

Apply HERITAGE as a preventative treatment at the full label use rate. Begin application when conditions are favourable for disease infection prior to disease symptom development. Make 2 applications 14 days apart in the spring and 2 applications 14 days apart in the autumn. In addition, utilise management practices, which encourage healthy turf and reduce turf stress.

Type 2 Fairy Rings

On the basis of limited evidence, HERITAGE will reduce the effects of Type 2 Fairy Rings. For best results applications should be made with the addition of a wetting agent to sufficiently wet the soil to allow the HERITAGE to get to the basidiomycete.

Timing

Repeat at minimum intervals of 2 weeks. The maximum number of HERITAGE applications per annum is 4 OR as described in the Resistance Management section of this label.

Rate of Use

Apply 0.5 kg HERITAGE in 125 – 1000 L per hectare (UK only) or 800 -1000 L per hectare (Ireland). For spot treatments, use 5 grams HERITAGE per 8 - 10 L of water. For optimum control of take-all patch, repeat application at the minimum interval.

MIXING AND SPRAYING

HERITAGE fungicide may be applied with all types of spray equipment commonly used for making ground applications. Do not apply through ULV sprayers.

Ensure that the sprayer is clean and set to give the correct volume and an even deposit. Do not allow spray mixture to stand overnight or for prolonged periods. Make up only the amount of spray required for immediate use.

Thoroughly wash all spraying equipment immediately after use using two to three rinses of clean water. Do not use silicone-based products with HERITAGE.

Tractor-mounted/trailed sprayers: Half fill the spray tank with water and begin agitation. Add the required quantity of HERITAGE to the tank and complete filling. Continue agitation until spraying is completed.

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

Good Field Practice

As part of our Product Stewardship policy, Syngenta Crop Protection recommends the following precautions should also be observed:- Wear appropriate clothing - coveralls and protective gloves, when handling the concentrate. HERITAGE® is a Registered Trademark of a Syngenta Group Company.

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

Section 6 of the Health and Safety at Work Act
Additional Product Safety Information (UK only)

(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. (UK only)

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: HERITAGE
Design Code: A12704A

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: Syngenta UK Limited
CPC4, Capital Park,
Fulbourn, Cambridge
Phone: (01223) 883400
Fax: (01223) 882195
Website: www.syngenta.co.uk

1.4 Emergency telephone number

Emergency phone No.: +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 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.

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

None known.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous Components

| Chemical Name | CAS No. EC No. Registration Number | Classification (REGULATION (EC) No. 1272/2008) | Concentration (%) |
|--|---|---|-------------------|
| azoxystrobin | 131860-33-8 | Acute Tox.3; H331 Aquatic Acute1; H400 Aquatic Chronic1; H410 | >= 50 - < 70 |
| naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl- naphthalenesulfonic acid, sodium salt | Not Assigned | Eye Irrit.2; H319 Skin Irrit.2; H315 | >= 5 - < 10 |
| sulfuric acid, mono-C12-18-alkyl esters, sodium salts | 68955-19-1 273-257-1 01-2119490225-39 | Skin Irrit.2; H315 Eye Dam.1; H318 | >= 1 - < 3 |

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 Syngenta 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 : 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 Special hazards arising from the substance or mixture

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

5.3 Advice for fire-fighters

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

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

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. Avoid dust formation.

6.2 Environmental precautions

Environmental precautions : 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, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Do not create a powder cloud by using a brush or compressed air. Clean contaminated surface thoroughly.

6.4 Reference to other sections

Refer to disposal considerations listed in 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.

Other data : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

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 |
|---------------------|---|-------------------------------|---------------------|----------|
| azoxystrobin | 131860-33-8 | TWA | 4 mg/m ³ | Syngenta |
| kaolin | 1332-58-7 | TWA (alveolate dust) | 3 mg/m ³ | CH SUVA |
| Further information | If the kaoline contains quartz, take its limit value into account | | | |

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 : 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. Personal protective equipment should be certified to appropriate standards.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|------------------------|------------------------------------|
| Appearance : | solid |
| Colour : | yellow to light brown |
| Odour : | none |
| pH : | 4 - 8, Concentration: 1 % w/v |
| Density : | 0.54 g/cm ³ |
| Explosive properties : | Classification Code: Not explosive |
| Oxidizing properties : | not oxidizing |

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

The product is stable when used in normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No hazardous reactions by normal handling and storage according to provisions.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : No substances are known which lead to the formation of hazardous substances or thermal reactions.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product:

| | |
|-----------------------------|--|
| Acute oral toxicity : | LD50 (Rat, male and female): > 5,000 mg/kg Remarks: The toxicological data has been taken from products of similar composition. |
| Acute inhalation toxicity : | LC50 (Rat): > 4.67 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: The toxicological data has been taken from products of similar composition. |
| Acute dermal toxicity : | LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: The toxicological data has been taken from products of similar composition. |

Components:

azoxystrobin:

| | |
|-----------------------------|--|
| Acute oral toxicity : | LD50 (Rat, male and female): > 5,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity |
| Acute inhalation toxicity : | LC50 (Rat, female): 0.7 mg/l Exposure time: 4 h Test atmosphere: dust/mist LC50 (Rat, male): 0.9 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 |

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt:

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

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Acute oral toxicity : LD50 (Rat, male and female): 2,600 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Acute dermal toxicity : LD50 (Rabbit, 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: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:

Species: Rabbit
Result: No skin irritation

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt:

Species: Rabbit
Result: Irritating to skin.

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Species: Rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: No eye irritation
Remarks: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:

Species: Rabbit
Result: No eye irritation

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt:

Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Species: Rabbit
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.
Remarks: The toxicological data has been taken from products of similar composition.

Components:

azoxystrobin:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

azoxystrobin:

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

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Germ cell mutagenicity- Assessment: In vitro tests did not show mutagenic effects

Carcinogenicity

Components:

azoxystrobin:

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

Reproductive toxicity

Components:

azoxystrobin:

Reproductive toxicity - Assessment: No toxicity to reproduction

Repeated dose toxicity

Components:

azoxystrobin:

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

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

| | |
|--|--|
| Toxicity to fish : | LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 1.1 mg/l Exposure time: 96 h LC50 (<i>Lepomis macrochirus</i> (Bluegill sunfish)): 2.4 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other : aquatic invertebrates | EC50 (<i>Daphnia magna</i> (Water flea)): 0.0018 mg/l Exposure time: 48 h |
| Toxicity to algae : | EbC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 0.12 mg/l Exposure time: 72 h ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 0.95 mg/l Exposure time: 72 h |

Components:

azoxystrobin:

| | |
|--|---|
| Toxicity to fish : | LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 0.47 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates: | EC50 (<i>Daphnia magna</i> (Water flea)): 0.28 mg/l Exposure time: 48 h EC50 (<i>Americamysis bahia</i> (Mysid shrimp)): 0.055 mg/l Exposure time: 96 h ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 2 mg/l Exposure time: 96 h NOErC (<i>Pseudokirchneriella subcapitata</i> (green algae)): 0.038 mg/l Exposure time: 96 h ErC50 (<i>Navicula pelliculosa</i> (Freshwater diatom)): 0.301 mg/l Exposure time: 96 h |
| Toxicity to algae : | 10 IC50 (<i>Pseudomonas putida</i>): > 3.2 mg/l Exposure time: 6 h NOEC: 0.16 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout) NOEC: 0.147 mg/l Exposure time: 33 d Species: <i>Pimephales promelas</i> (fathead minnow) |
| M-Factor (Acute aquatic toxicity): Toxicity to bacteria : | 10 IC50 (<i>Pseudomonas putida</i>): > 3.2 mg/l Exposure time: 6 h NOEC: 0.16 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout) NOEC: 0.147 mg/l Exposure time: 33 d Species: <i>Pimephales promelas</i> (fathead minnow) |
| Toxicity to fish (Chronic toxicity): | NOEC: 0.044 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) NOEC: 0.0095 mg/l Exposure time: 28 d Species: <i>Americamysis bahia</i> (Mysid shrimp) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): | NOEC: 0.044 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) NOEC: 0.0095 mg/l Exposure time: 28 d Species: <i>Americamysis bahia</i> (Mysid shrimp) |
| M-Factor (Chronic aquatic toxicity): | 10 |

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Toxicity to fish : LC50 : 17 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 15 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : ErC50 (Algae): 20 mg/l
Exposure time: 72 h
NOErC (Algae): 3 mg/l
Exposure time: 72 h

Toxicity to bacteria : EC50 (Bacteria): 680 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity): NOEC: 0.11 - 0.35 mg/l
Exposure time: 34 d
Species: Fish

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.419 mg/l
Exposure time: 7 d
Species: *Daphnia* (water flea)

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

12.2 Persistence and degradability**Components:****azoxystrobin:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 214 d

Remarks: The substance is stable in water.

sulfuric acid, mono-C12-18-alkyl esters, sodium salts:

Biodegradability : Result: Readily biodegradable

12.3 Bioaccumulative potential:**Components:****azoxystrobin:**

Bioaccumulation : Remarks: Does not bioaccumulate.

12.4 Mobility in soil:**Components:****azoxystrobin:**

Distribution among environmental compartments: Remarks: Azoxystrobin has low to very high mobility in soil.

Stability in soil : Percentage dissipation: 50 % (DT50: 80 d)

Remarks: Not persistent in soil.

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:**azoxystrobin:**

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:****Components:****azoxystrobin:**

Additional ecological information: Remarks: 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 for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Land transport (ADR/RID)

| | |
|---------------------------------|--|
| 14.1 UN Number | UN 3077 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (AZOXYSTROBIN) |
| 14.3 Transport hazard class(es) | 9 |
| 14.4 Packing Group | III |
| Labels | 9 |
| 14.5 Environmental hazards | Environmentally hazardous |

Sea transport (IMDG)

| | |
|---------------------------------|--|
| 14.1 UN Number | UN 3077 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (AZOXYSTROBIN) |
| 14.3 Transport hazard class(es) | 9 |
| 14.4 Packing Group | III |
| Labels | 9 |
| 14.5 Environmental hazards | Marine pollutant |

Air transport (IATA-DGR)

| | |
|-----------------------------------|--|
| 14.1 UN Number | UN 3077 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (AZOXYSTROBIN) |
| 14.3 Transport hazard class(es) | 9 |
| 14.4 Packing Group | III |
| Labels | 9 |
| 14.6 Special precautions for user | None |

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

Not applicable

SECTION 15. REGULATORY INFORMATION

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

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.

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 13536, PCS No. 05062.

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

Based upon SDS release dated 17/02/2016, version 12 with local amendment.

Full text of H-statements:

| | |
|------|--------------------------------|
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |

| | |
|------|---|
| H331 | Toxic if inhaled. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

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.

Product names are a trademark or registered trademark of a Syngenta Group Company.



Fungicide



Product registration number:
MAPP 13536 PCS No. 05062



Water dispersible granule formulation containing
500g/kg azoxystrobin.

A systemic strobilurin fungicide for the control of Fusarium patch, Take-all patch, Anthracnose, Brown patch, Leaf spot / Melting out, Rust diseases and Type 2 Fairy Rings.

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

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

Product names marked ® or ™, the ALLIANCE FRAME logo, the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

500 g

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



HERITAGE

FOR PROFESSIONAL USE ONLY

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

Contains 500g/kg azoxystrobin as a water dispersible granule.



Warning.

Very toxic to aquatic life with long lasting effects.

Avoid release to the environment.

Collect spillage.

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

MAPP 13536 PCS 05062

IMPORTANT INFORMATION

FOR USE ONLY AS A HORTICULTURAL FUNGICIDE.

For use on managed Amenity Turf.

Maximum individual dose: 0.5kg product per hectare

Maximum number of treatments: Four per annum

Latest time of application: Not applicable

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.

Approval Holder and UK Marketing Company

Syngenta UK Limited
CPC 4, Capital Park, Fulbourn
Cambridge CB21 5XE
Tel: +44 (0)1223 883400

Ireland Marketing Company

Syngenta Ireland Ltd.
Block 6, Cleaboy Business Park,
Old Kilmeaden Road, Waterford
Tel: (051) 3777203

PROTECT FROM FROST.

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APPROVED LABEL TEXT

MEDALLION TL

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.



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

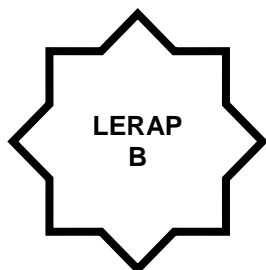
SAFETY PRECAUTIONS

(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.

MEDALLION TL is a trade mark of a Syngenta Group Company.

L1042415 GBRI/5W PPE 4095094



syngenta

A turf pigment.

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

Syngenta UK Ltd
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
SHAKE WELL BEFORE USE*

Product names marked © or ™, the ALLIANCE FRAME, the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

1 Litre

RYDER®
A turf pigment.

Danger

**May cause an allergic skin reaction.
Causes serious eye damage.**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Wear protective gloves/ eye protection/ face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

If skin irritation or rash occurs: Get medical advice/ attention.

Take off contaminated clothing and wash it before reuse.

Collect spillage.

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



SAFETY PRECAUTIONS

Keep out of reach of children.

Keep away from food, drink and animal feeding stuffs.

When using do not eat drink or smoke.

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

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

WASH OUT CONTAINER THOROUGHLY, and dispose of safely.

DO NOT RE-USE CONTAINER for any other purpose.

750ml

approx. measure

500ml

250ml

DIRECTIONS FOR USE

GENERAL INFORMATION

RYDER® is a highly concentrated and stable green pigment designed for use on managed turf to improve its appearance and to help protect against UV radiation and excessive light intensities.

RYDER delivers a lasting and natural looking green colour for an enhanced, more uniform, appearance.

RYDER is safe to use on all turf species. For optimum turf quality RYDER should be used in conjunction with turf management practices that promote good turf health.

RESTRICTIONS

Prevent spray drift onto surrounding areas. Stone, paths and pavements will be stained if contacted.

Avoid product drift to open water bodies:

Apply vegetative buffer zones to water bodies of 3-5 m. Product application must be done using drift preventing practices and equipment (weather conditions during application, spraying equipment calibration)

Rates of Use

Greens and turf maintained at under 12mm

Apply at a rate of 0.75 to 1.5 l/ha in a water volume of 250-500 litres per hectare. Use higher rates for deeper green colour and higher heights of cut.

Turf maintained above 12mm

Apply at a rate of 1.0 to 2.0 l/ha in a water volume of 250-500 litres per hectare. Use higher rates for deeper green colour and higher heights of cut.

For superior coverage apply 0.5 – 1.0 l/ha in each of two directions (90° opposite directions)

Timing

Apply RYDER at approximately 2 to 3 week intervals during the main growing season and at 4- 6 week intervals when turf growth slows and mowing frequency drops.

RYDER can be applied throughout the year as required.

Apply after mowing.

MIXING AND SPRAYING

Use of PPE for mixing/loading and application: Impermeable clothing (long sleeves shirt, long trousers), footwear. Hand protection: nitrile gloves. Eye protection: Tightly fitting safety goggles, Face shield. During handling of concentrated product: respiratory protection.

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 clean water and commence agitation. Add the required quantity of RYDER to the spray tank. Complete filling to the required volume and continue to agitate throughout the spraying operation.

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 (>1 hour) or overnight). Make up only the amount of spray required for immediate use.

Thoroughly wash all spray equipment with water immediately after use.

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

Good Field Practice

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

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

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

RYDER® is a trademark 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 'extensions 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 - V2.0

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

1.1 Product Identifier

Trade name: RYDER

Design code: CA6242A

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

Use of the Substance/Mixture: Colouring agents, pigments

1.3 Details of the supplier of the safety data sheet

Company: Syngenta UK Ltd

CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

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

1.4 Emergency telephone number

Emergency phone No.: +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture



Classification (REGULATION (EC) No 1272/2008)

Serious eye damage, Category 1 H318: Causes serious eye damage.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

| | | |
|--------------------------|---|--|
| Hazard pictograms | | |
| |  |  |
| Signal Word | Danger | |
| Hazard Statements | H317 H318 | May cause an allergic skin reaction. Causes serious eye damage. |
| Precautionary Statements | P260 P280 P305+P351+ P338+P310 P333+P313 P362+P364 P501 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if pre-sent and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse. Dispose of contents/ container to an approved waste disposal plant. |

Hazardous components which must be listed on the label:

- alcohols, C12-15,ethoxylated
- 1,2-benzisothiazol-3(2H)-one

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. Index-No. Registration number | Classification | Concentration (% w/w) |
|---|--|---|-----------------------|
| C.I. pigment green 7 | 1328-53-6 215-524-7 | Eye Irrit. 2; H319 | >= 70 - < 90 |
| alcohols, C12-15,ethoxylated | 68131-39-5 500-195-7 | Acute Tox. 4; H302 Eye Dam. 1; H318 | >= 10 - < 20 |
| Fatty acids, tall-oil, diesters with polypropylene glycol | 68648-12-4 | Skin Irrit. 2; H315 Eye Irrit. 2; H319 | >= 1 - < 10 |

| Chemical Name | CAS-No. EC-No. Index-No. Registration number | Classification | Concentration (% w/w) |
|------------------------------|--|--|-----------------------|
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 220-120-9 613-088-00-6 | Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 | >= 0.1 - < 0.25 |

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: 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 Special 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 fire-fighters

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

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

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 material for containment and cleaning up

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). 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 |
|----------------------|-----------|-------------------------------|---------------------------------|---------|
| C.I. pigment green 7 | 1328-53-6 | TWA (Dusts and mists) | 1 mg/m ³ (Copper) | GB EH40 |
| | 1328-53-6 | STEL (Dusts and mists) | 2 mg/m ³ (Copper) | GB EH40 |
| carbon black | 1333-86-4 | TWA | 3.5 mg/m ³ | GB EH40 |
| | 1333-86-4 | STEL | 7 mg/m ³ | GB EH40 |

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:

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

Material: Nitrile rubber

Break through time: > 480 min

Glove length: 0.5 mm

Remarks: Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use.

Wear as appropriate: Impervious clothing

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Suitable respiratory equipment: Respirator with combination filter for vapour/particulate (EN 141)

The filter class for the respirator must be suitable for the maximum expected contaminant concentration

(gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Filter type: Combined particulates and organic vapour type (A-P)

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: | green |
| Odour: | characteristic |
| Odour Threshold: | No data available pH: >= 7 |
| Melting point/range: | No data available |
| Boiling point/boiling range: | > 100 °C |
| Flash point: | does not flash |
| Evaporation rate: | No data available |
| Upper explosion limit / Upper flammability limit: | No data available |
| Lower explosion limit / Lower flammability limit: | No data available |
| Vapour pressure: | No data available |
| Relative vapour density: | No data available |
| Density: | 1.272 g/cm ³ |
| Solubility(ies) | |
| Solubility in other solvents: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| Viscosity | |
| Viscosity, dynamic: | No data available |
| Explosive properties: | No data available |
| Oxidizing properties: | No data available |

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 oral toxicity:

Product:

Acute oral toxicity: Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

C.I. pigment green 7:

Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity: LD50 (Rabbit): > 3,000 mg/kg

alcohols, C12-15,ethoxylated:

Acute oral toxicity: LD50 (Rat): 1,000 - 2,000 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Fatty acids, tall-oil, diesters with polypropylene glycol:

Acute oral toxicity: Assessment: The component/mixture is minimally toxic after single ingestion.

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

Acute oral toxicity: Acute toxicity estimate: 500.0 mg/kg
Method: Converted acute toxicity point estimate
Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation

Components:

C.I. pigment green 7:

Result: Mild skin irritation
Fatty acids, tall-oil, diesters with polypropylene glycol:
Result: Irritating to skin.

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

Assessment: Irritating to skin.

Serious eye damage/eye irritation

Components:

C.I. pigment green 7:

Result: Irritation to eyes, reversing within 7 days

alcohols, C12-15,ethoxylated:

Species: Rabbit

Result: Risk of serious damage to eyes.

Remarks: Information given is based on data obtained from similar substances.

Fatty acids, tall-oil, diesters with polypropylene glycol:

Result: Eye irritation

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

Result: Irreversible effects on the eye

Respiratory or skin sensitisation

Product:

Result: May cause sensitisation by skin contact.

Remarks: Experience with human exposure

Components:

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

Result: May cause sensitisation by skin contact.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Components:

C.I. pigment green 7:

Toxicity to fish: LC50 (*Danio rerio* (zebra fish)): > 1,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): > 5,600 mg/l
Exposure time: 24 h

Toxicity to algae: EC50 (*Desmodesmus subspicatus* (green algae)): > 10,000 mg/l
Exposure time: 72 h

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

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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

12.6 Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Where possible recycling is preferred to disposal or incineration. It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

Contaminated packaging: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

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

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: (3)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

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 94/33/EC on the protection of young people at work or stricter national regulations, where applicable. Use plant protection products safely. Always read the label and product information before use.

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

H302 Harmful if swallowed

H315 Causes skin irritation

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

Full text of other abbreviations

Acute Tox.: Acute toxicity

Aquatic Acute: Acute aquatic toxicity

Eye Dam.: Serious eye damage

Eye Irrit.: Eye irritation

Skin Irrit.: Skin irritation

Skin Sens.: Skin sensitisation

GB EH40: UK. EH40 WEL - Workplace Exposure Limits

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

GB EH40 / STEL: Short-term exposure limit (15-minute 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; KECl - 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:**

| | | |
|--------------|------|--------------------|
| Eye Dam. 1 | H318 | Calculation method |
| Skin Sens. 1 | H317 | Calculation method |

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.

L1042415 GBRI/SW PPE 4095094



syngenta

A turf pigment.

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

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

*PROTECT FROM FROST
SHAKE WELL BEFORE USE*

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1 Litre

RYDER®

A turf pigment.



Danger

May cause an allergic skin reaction.

Causes serious eye damage.

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Wear protective gloves/ eye protection/ face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

If skin irritation or rash occurs: Get medical advice/ attention.

Take off contaminated clothing and wash it before reuse.

Collect spillage.

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

SAFETY PRECAUTIONS

Keep out of reach of children.

Keep away from food, drink and animal feeding stuffs.

When using do not eat drink or smoke.

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

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

WASH OUT CONTAINER THOROUGHLY, and dispose of safely.

DO NOT RE-USE CONTAINER for any other purpose.

