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

1.1 Product identifier

Trade name	:	HERITAGE
Design code	:	A12704A
Product Registration Number	:	MAPP 13536

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

Use of the Substance/Mixture	:	Fungicide
Recommended restrictions on use	:	professional use

1.3 Details of the supplier of the safety data sheet

Company	:	Syngenta UK Limited CPC4, Capital Park Fulbourn, Cambridge CB21 5XE United Kingdom
Telephone	:	+44 (0) 1223 883400
Telefax	:	+44 (0) 1223 882195
E-mail address of person responsible for the SDS	:	customer.services@syngenta.com

1.4 Emergency telephone number

Emergency telephone number	:	+44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

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.

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2.2 Label elements

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

Hazard pictograms :

Signal word : Warning

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

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 triple rinsed clean containers which can be disposed of as non-hazardous waste.

Additional Labelling

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

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
azoxystrobin (ISO)	131860-33-8 607-256-00-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute	>= 50 - < 70

		aquatic toxicity): 1010 M-Factor (Chronic aquatic toxicity): 1010	
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	68425-94-5	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 3 - < 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 Aquatic Chronic 3; H412	>= 1 - < 2.5
methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370	>= 0.1 - < 1
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304	>= 0.1 - < 1
Substances with a workplace exposure limit :			
kaolin	1332-58-7 296-473-8		>= 30 - < 50

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: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Extinguishing media - small fires Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Extinguishing media - large fires Alcohol-resistant foam or Water spray
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for 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.
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 material 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.
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.

Further information on storage stability : 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 (ISO)	131860-33-8	TWA	4 mg/m3	Syngenta
kaolin	1332-58-7	TWA (Respirable dust)	2 mg/m3	GB EH40
		TWA (Respirable dust)	0.1 mg/m3	2004/37/EC
	Further information: Carcinogens or mutagens			
methanol	67-56-1	TWA	200 ppm 266 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	250 ppm 333 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	200 ppm 260 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
toluene	108-88-3	TWA	50 ppm 191 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 384 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	50 ppm 192 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		STEL	100 ppm 384 mg/m3	2006/15/EC

	Further information: Indicative, Identifies the possibility of significant uptake through the skin

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
sulfuric acid, mono-C12-18-alkyl esters, sodium salts	Workers	Dermal	Long-term systemic effects	4060 mg/kg
	Workers	Inhalation	Long-term systemic effects	285 mg/m3
	Consumers	Oral	Long-term systemic effects	24 mg/kg
	Consumers	Inhalation	Long-term systemic effects	85 mg/m3
	Consumers	Dermal	Long-term systemic effects	2440 mg/kg
methanol	Workers	Dermal	Short-term exposure, Systemic effects	40 mg/kg
	Workers	Inhalation	Short-term exposure, Systemic effects	260 mg/m3
	Workers	Inhalation	Short-term exposure, Local effects	260 mg/m3
	Workers	Dermal	Long-term systemic effects	40 mg/kg
	Workers	Inhalation	Long-term systemic effects	260 mg/m3
	Workers	Inhalation	Long-term local effects	260 mg/m3
	Consumers	Dermal	Short-term exposure, Systemic effects	8 mg/kg
	Consumers	Inhalation	Short-term exposure, Systemic effects	50 mg/m3
	Consumers	Oral	Short-term exposure, Systemic effects	8 mg/kg
	Consumers	Inhalation	Long-term local effects	50 mg/m3
	Consumers	Oral	Long-term systemic effects	8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Dermal	Long-term systemic effects	8 mg/kg
	Consumers	Inhalation	Short-term exposure, Local effects	50 mg/m3
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m3
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m3

	Workers	Inhalation	Acute systemic effects	384 mg/m3
	Workers	Inhalation	Long-term local effects	192 mg/m3
	Consumers	Oral	Long-term systemic effects	8.13 mg/kg
	Consumers	Dermal	Long-term systemic effects	226 mg/kg
	Consumers	Inhalation	Acute systemic effects	226 mg/m3
	Consumers	Inhalation	Acute local effects	226 mg/m3
	Consumers	Inhalation	Long-term local effects	56.5 mg/m3
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m3

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
sulfuric acid, mono-C12-18-alkyl esters, sodium salts	Fresh water sediment	3.45 mg/kg
	Fresh water	0.098 mg/l
	Soil	0.631 mg/kg
	Sewage treatment plant	6.8 mg/kg
	Marine water	0.0098 mg/l
	Marine sediment	0.345 mg/kg
methanol	Fresh water	154 mg/l
	Marine water	15.4 mg/l
	Soil	22.5 mg/kg
	Sewage treatment plant	100 mg/l
toluene	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg
	Sewage treatment plant	13.61 mg/l
	Intermittent release	0.68 mg/l
	Marine water	0.68 mg/l
	Fresh water sediment	16.39 mg/kg
	Soil	2.89 mg/kg

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection		
Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	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.
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: Dust impervious protective suit
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable respiratory equipment: Respirator with a half face mask 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.
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	:	solid
Colour	:	yellow to light brown
Odour	:	none

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Odour Threshold	:	No data available
pH	:	4 - 8 Concentration: 1 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Burning number	:	2 (20 °C)
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	:	0.54 g/cm3
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, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Minimum ignition temperature	:	450 °C
Minimum ignition energy	:	10 - 30 mJ
Particle size	:	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, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.67 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is minimally toxic after short term inhalation.
Remarks: Highest attainable concentration

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

Components:

azoxystrobin (ISO):

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

Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

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

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

Acute oral toxicity : LD50 (Rat, male and female): 2,600 mg/kg

methanol:

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

Acute inhalation toxicity : Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

azoxystrobin (ISO):

Species : Rabbit
Result : No skin irritation

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Method : in vitro skin corrosion test
Result : Irritating to skin.

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

Species : Rabbit
Result : Irritating to skin.

toluene:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

azoxystrobin (ISO):

Species : Rabbit
Result : No eye irritation

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Method : in vitro eye irritation test
Result : Risk of serious damage to eyes.

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

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

Respiratory or skin sensitisation

Product:

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

Components:

azoxystrobin (ISO):

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

Germ cell mutagenicity

Components:

azoxystrobin (ISO):

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

methanol:

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

Carcinogenicity

Components:

azoxystrobin (ISO):

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

methanol:

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

Reproductive toxicity

Components:

azoxystrobin (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

methanol:

Reproductive toxicity - Assessment : No toxicity to reproduction

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

methanol:

Target Organs : Eyes, Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

toluene:

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

STOT - repeated exposure

Components:

azoxystrobin (ISO):

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

toluene:

Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity

Components:

toluene:

May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Product:

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)): 0.0018 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.95 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.05 mg/l
End point: Growth rate
Exposure time: 72 h

Components:

azoxystrobin (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.28 mg/l Exposure time: 48 h EC50 (Americamysis): 0.055 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 2 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.038 mg/l End point: Growth rate Exposure time: 96 h ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l Exposure time: 96 h NOEC (Navicula pelliculosa (Freshwater diatom)): 0.02 mg/l End point: Growth rate Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	10
	:	10
Toxicity to microorganisms	:	IC50 (Pseudomonas putida): > 3.2 mg/l Exposure time: 6 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.16 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) NOEC: 0.147 mg/l Exposure time: 33 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.044 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.0095 mg/l Exposure time: 28 d Species: Americamysis

M-Factor (Chronic aquatic toxicity) : 10

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/aquatic plants : ErC50 (green algae): 20 mg/l
Exposure time: 72 h

NOEC (green algae): 3 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to microorganisms : 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)

toluene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h

12.2 Persistence and degradability

Components:

azoxystrobin (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 214 d
Remarks: The substance is stable in water.

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Biodegradability : Result: Not readily biodegradable.

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

Biodegradability : Result: Readily biodegradable.

toluene:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

azoxystrobin (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

12.4 Mobility in soil

Components:

azoxystrobin (ISO):

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

Stability in soil : Dissipation time: 80 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

12.5 Results of PBT and vPvB assessment

Product:

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

Components:

azoxystrobin (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).

methanol:

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).

toluene:

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

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.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3077

RID : UN 3077

IMDG : UN 3077

IATA : UN 3077

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(AZOXYSTROBIN)

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RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (AZOXYSTROBIN)

14.3 Transport hazard class(es)

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

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

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14.5 Environmental hazards

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 regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: methanol (Number on list 69) toluene (Number on list 48)
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

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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

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

H225	:	Highly flammable liquid and vapour.
H301	:	Toxic if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H331	:	Toxic if inhaled.
H336	:	May cause drowsiness or dizziness.
H361d	:	Suspected of damaging the unborn child.
H370	:	Causes damage to organs.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
2006/15/EC	:	Europe. Indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA	:	Long term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
2006/15/EC / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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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; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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

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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.

GB / EN

MEDALLION TL

Version 4 - This version replaces all previous versions.
Revision Date 06.09.2013

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

1.1 Product identifier

Product name : **MEDALLION TL**

Design code : A17856B

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
Cambridge, Fulbourn
CB21 5XE

Telephone : (01223) 883400

Telefax : (01223) 882195

Website : www.greencast.co.uk

1.4 Emergency telephone number

: +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
Chronic aquatic toxicity	Category 1	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

N, Dangerous for the environment
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.
Precautions Statements	:P273	Avoid release to the environment.
	:P391	Collect spillage.
	: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.
Supplemental Information	: EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

Labelling: EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)

Dangerous for the environment

R-phrase(s)	R51/53	Toxic to aquatic organisms, may cause long-term
S-phrase(s):	S 2	Keep out of the reach of children.
	S13	Keep away from food, drink and animal feedingstuffs.
	S20/21	When using do not eat, drink or smoke.
	S35	This material and its container must be disposed of in a safe way.
	S57	Use appropriate container to avoid environmental contamination.
Additional Labelling		To avoid risks to man and the environment, comply with the instructions for use.

2.1 Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration
fludioxonil	131341-86-1	N	Aquatic Acute1; H400 Aquatic Chronic1; H410	11.8 % W/W
propane-1,2-diol	57-55-6 200-338-0	-	-	5 - 10 % W/W
poly(oxy-1,2-ethanediyl), alpha-[tris(1-phenylethyl) phenyl]-omega-hydroxy-	99734-09-5 70559-25-0	R52/53	Aquatic Chronic3; H412	1 - 5 % W/W

Substances for which there are Community workplace exposure limits.
For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

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

Inhalation : 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.

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.

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.

Ingestion : 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

Medical advice : There is no specific antidote available.
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1 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.
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture
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:
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

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and 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

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

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for 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

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)

Registered Crop Protection products: 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

Components	Exposure limit(s)	Type of exposure limit	Source
fludioxonil	10 mg/m3	8 h TWA	SYNGENTA
propane-1,2-diol	10 mg/m3 (Particulates) 150 ppm, 470 mg/m3 (Total (vapour & particulates))	8 h TWA 8 h TWA	UK HSE UK HSE

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

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.
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.
Respiratory protection	No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.
Hand protection	Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements
Eye protection	Eye protection is not usually required. Follow any site specific eye protection policies.
Skin and body protection	No special protective equipment required. Select skin and body protection based on the physical job requirements.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	:	liquid
Form	:	suspension
Colour	:	Beige grey to grey green
Odour	:	sweetish
Odour Threshold	:	No data available
pH	:	5 – 9 at 1 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	>100 ºC at 99.2 kPa Pensky-Martens c.c.
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	:	1.06 g/cm³ at 20 ºC
Solubility in other solvents	:	No data available
Partition Coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	610 ºC
Thermal decomposition	:	No data available
Viscosity, dynamic	:	77 – 233 mPa.s at 20 ºC 64 – 196 mPa.s at 40 ºC
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidising

9.2 Other information

Surface tension : 39.4 mN/m at 20 °C

SECTION 10. STABILITY AND REACTIVITY

10.1	**Reactivity**	:	No information available
10.2	**Chemical Stability**	:	No information available

10.3	**Possibility of hazardous reactions**	:	None known. Hazardous polymerisation does not occur.
10.4	**Conditions to avoid**	:	No information available
10.5	**Incompatible materials**	:	No information available
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 oral toxicity	:	LD50 female rat, 5,000 mg/kg
Acute inhalational toxicity	:	LC50 male and female rat, > 2.59 mg/l , 4 h
Acute dermal toxicity	:	LD50 male and female rat, > 5,000 mg/kg
Skin corrosion/irritation	:	rabbit: Non-irritating
Serious eye damage/eye irritation	:	rabbit: minimally irritating
Respiratory or skin sensitisation	:	Buehler Test guinea pig: Not a skin sensitizer
Germ cell mutagenicity		
fludioxonil	:	Did not show mutagenic effects in animal experiments.
Carcinogenicity		
fludioxonil	:	Did not show carcinogenic effects in animal experiments.
Reproductive toxicity		
fludioxonil	:	Did not show reproductive toxicity effects in animal experiments.
STOT – repeated exposure		
fludioxonil	:	No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	:	LC50 *Oncorhynchus mykiss* (rainbow trout), 5.4 mg/l, 96 h
Toxicity to aquatic invertebrates	:	EC50 *Daphnia magna* (water flea), 30 mg/l, 48 h
Toxicity to aquatic plants	:	EbC50 *Pseudokirchneriella subcapitata* (green algae), 4.5 mg/l, 96 h ErC50 *Pseudokirchneriella subcapitata* (green algae), 5.4 mg/l, 96 h

12.2 Persistence and degradability

Biodegradability		
fludioxonil	:	Not readily biodegradable.
Stability in water	:	
fludioxonil		Degradation half life: 450 - 700 d. Stable in water
Stability in soil	:	
fludioxonil		Degradation half life: 14 d. Not persistent in soil

12.3 Bioaccumulative potential

fludioxonil : Does not bioaccumulate.

12.4 Mobility in soil

fludioxonil : Fludioxonil is immobile in soil.

12.5 Results of PBT and vPvB assessment

:Fludioxonil is not considered to be persistent, bioaccumulating nor toxic (PBT).
Fludioxonil is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

None known

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

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 3082
14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(FLUDIOXONIL)
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 3082
14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(FLUDIOXONIL)
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 3082
14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(FLUDIOXONIL)
14.3	**Transport hazard class(es)**	**:**	9
14.4	**Packing Group**	**;**	III
Labels		:	9
14.6	**Special precautions for user**	:	none

14.6 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 regulations/legislation specific for the substance or mixture

GHS-Labelling

Hazard pictograms

Signal Word	:Warning	
Hazard Statements	:H410	Very toxic to aquatic life with long lasting effects.
Precautions Statements	:P273	Avoid release to the environment.
	:P391	Collect spillage.
	: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.
Supplemental Information	: EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

15.2 Chemical Safety Assessment
A Chemical Safety Assessment is not required for this substance.

SECTION 16. OTHER INFORMATION

Approval number, MAPP 15287.
Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 06/09/2013, version 4 with local amendment.

Full text of R-phrases referred to under sections 2 and 3:

R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3.

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful 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.

RYDER

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.0	11.04.2018	S00049709247	

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 Sub-stance/Mixture : Colouring agents, pigments

1.3 Details of the supplier of the safety data sheet

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

Telephone : +44 (0) 1223 883400

Telefax : +44 (0) 1223 882195

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

1.4 Emergency telephone number

Emergency telephone number : +44 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 May cause an allergic skin reaction.
H318 Causes serious eye damage.

Precautionary statements :

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:

P501 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	68648-12-4	Skin Irrit. 2; H315	>= 1 - < 10

polypropylene glycol		Eye Irrit. 2; H319	
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: Firefighting measures

5.1 Extinguishing media

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

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

5.2 Special hazards arising from the substance or mixture

Specific hazards during 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 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/m3 (Copper)	GB EH40
	1328-53-6	STEL (Dusts and mists)	2 mg/m3 (Copper)	GB EH40
carbon black	1333-86-4	TWA	3.5 mg/m3	GB EH40
	1333-86-4	STEL	7 mg/m3	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 : Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Tightly fitting safety goggles
Face-shield

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/cm3
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 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 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/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; 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:**
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.

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