INSTRATA ELITE

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

1.1 Product identifier

Trade name	:	INSTRATA ELITE
Design code	:	A20323D
Product Registration Number	:	MAPP 17976
Unique Formula Identifier (UFI)	:	42UC-J5TR-N009-6T61

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 Jealott's Hill International Research Centre Bracknell, Berkshire RG42 6EY United Kingdom
Telephone	:	+44 (0) 1223 883400
Telefax	:	-
E-mail address of person responsible for the SDS	:	MSDSenquiries.UK@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.

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 :

Prevention:

P273 Avoid release to the environment.

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.

Additional Labelling

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

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)
fludioxonil (ISO)	131341-86-1 608-069-00-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 10

		M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	
difenoconazole (ISO)	119446-68-3 613-347-00-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 2.5 - < 10
disodium do-decyl(sulphonatophenoxy)benzenesulphonate	28519-02-0 249-063-8	Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 ——————— specific concentra-tion limit Skin Sens. 1; H317 >= 0.05 %	>= 0.025 - < 0.05
bronopol (INN)	52-51-7 200-143-0 603-085-00-8	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory sys-tem) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 0.025 - < 0.1

Substances with a workplace exposure limit :			
propane-1,2,3-triol	56-81-5 200-289-5		>= 10 - < 20

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.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Fluorine compounds
Chlorine compounds
Sulphur oxides

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
propane-1,2,3-triol	56-81-5	TWA (Mist)	10 mg/m3	GB EH40
fludioxonil (ISO)	131341-86-1	TWA	5 mg/m3	Syngenta
difenoconazole (ISO)	119446-68-3	TWA	5 mg/m3	Syngenta

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2,3-triol	Workers	Inhalation	Long-term local effects	220 mg/m3
	Consumers	Inhalation	Long-term local effects	132 mg/m3
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg
bronopol (INN)	Workers	Inhalation	Long-term systemic effects	3.5 mg/m3
	Workers	Inhalation	Acute systemic effects	10.5 mg/m3

	Workers	Inhalation	Long-term local effects	2.5 mg/m3
	Workers	Inhalation	Acute local effects	2.5 mg/m3
	Workers	Dermal	Long-term systemic effects	2 mg/kg
	Workers	Dermal	Acute systemic effects	6 mg/kg
	Workers	Dermal	Long-term local effects	0.008 mg/cm2
	Workers	Dermal	Acute local effects	0.008 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	0.6 mg/m3
	Consumers	Inhalation	Acute systemic effects	1.8 mg/m3
	Consumers	Inhalation	Long-term local effects	0.6 mg/m3
	Consumers	Inhalation	Acute local effects	0.6 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.7 mg/kg
	Consumers	Dermal	Acute systemic effects	2.1 mg/kg
	Consumers	Dermal	Long-term local effects	0.004 mg/cm2
	Consumers	Dermal	Acute local effects	0.004 mg/cm2
	Consumers	Oral	Long-term systemic effects	0.18 mg/kg
	Consumers	Oral	Acute systemic effects	0.5 mg/kg

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
propane-1,2,3-triol	Sewage treatment plant	1000 mg/l
	Fresh water	0.885 mg/l
	Marine water	0.0885 mg/l
	Soil	0.141 mg/kg
	Fresh water sediment	3.3 mg/kg
	Marine sediment	0.33 mg/kg
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg
bronopol (INN)	Fresh water	0.01 mg/l
	Marine water	0.001 mg/l
	Freshwater - intermittent	0.003 mg/l
	Sewage treatment plant	0.43 mg/l
	Fresh water sediment	0.041 mg/kg
	Marine sediment	0.003 mg/kg
	Soil	0.5 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/face 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: Impervious clothing
Respiratory protection	:	No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Protective measures	:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	white

Odour	:	No data available
Odour Threshold	:	No data available
pH	:	7.3 Concentration: 100 %
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / 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	:	1.1 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	425 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

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

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

Based on available data, the classification criteria are not met.

Product:

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.65 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

Components:

fludioxonil (ISO):

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

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

difenoconazole (ISO):

Acute oral toxicity	:	LD50 (Rat, male and female): 1,453 mg/kg Acute toxicity estimate: 1,450 mg/kg Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 3.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 2,010 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

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

Acute oral toxicity	:	LD50 (Rat, male): 670 mg/kg
Acute inhalation toxicity	:	LC50: 0.5 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

bronopol (INN):

Acute oral toxicity	:	Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat): > 5 mg/l Exposure time: 6 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Assessment: The component/mixture is moderately toxic after single contact with skin.

propane-1,2,3-triol:

Acute oral toxicity	:	LD50 (Rat, female): > 4,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat, male): > 2.75 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat, female): > 5,000 mg/kg

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No skin irritation

Components:

fludioxonil (ISO):

Species	:	Rabbit
Result	:	No skin irritation

difenoconazole (ISO):

Species	:	Rabbit
Result	:	No skin irritation

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

Species	:	Rabbit
Result	:	Irritating to skin.

bronopol (INN):

Species	:	Rabbit
Result	:	Irritating to skin.

propane-1,2,3-triol:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No eye irritation

Components:

fludioxonil (ISO):

Species : Rabbit
Result : No eye irritation

difenoconazole (ISO):

Species : Rabbit
Result : Irritation to eyes, reversing within 7 days

disodium dodecyl(sulphonatophenoxy)benzenesulphonate:

Result : Risk of serious damage to eyes.

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

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

bronopol (INN):

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

propane-1,2,3-triol:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Result : Does not cause skin sensitisation.

Components:

fludioxonil (ISO):

Species : Guinea pig
Result : Does not cause skin sensitisation.

difenoconazole (ISO):

Species : Guinea pig
Result : Does not cause skin sensitisation.

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

Result : Probability or evidence of high skin sensitisation rate in humans

bronopol (INN):

Species : Guinea pig
Result : Does not cause skin sensitisation.

propane-1,2,3-triol:

Species : Guinea pig
Result : Not a skin sensitizer.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

fludioxonil (ISO):

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

difenoconazole (ISO):

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

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

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

bronopol (INN):

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

propane-1,2,3-triol:

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

Carcinogenicity

Suspected of causing cancer.

Components:

fludioxonil (ISO):

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

difenoconazole (ISO):

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

bronopol (INN):

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

ment

propane-1,2,3-triol:

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

Reproductive toxicity

Not classified due to lack of data.

Components:

fludioxonil (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

difenoconazole (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

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

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

bronopol (INN):

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

propane-1,2,3-triol:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

STOT - single exposure

Not classified due to lack of data.

Components:

difenoconazole (ISO):

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

bronopol (INN):

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

STOT - repeated exposure

Not classified due to lack of data.

Components:

fludioxonil (ISO):

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

difenoconazole (ISO):

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

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

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

bronopol (INN):

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

propane-1,2,3-triol:

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

Aspiration toxicity

Not classified due to lack of data.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.1 mg/l
Exposure time: 96 h

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

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 8.2 mg/l
Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 4.5 mg/l
End point: Growth rate
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.5 mg/l
End point: Growth rate
Exposure time: 72 h

Components:

fludioxonil (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): 0.7 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.4 mg/l
Exposure time: 48 h

EC50 (Americamysis): 0.27 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.259 mg/l
Exposure time: 96 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.077 mg/l
End point: Growth rate
Exposure time: 96 h

ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l
Exposure time: 96 h

NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l
End point: Growth rate
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 1

: M-Factor=1 used for transport classification

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.04 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

EC10: 0.018 mg/l
Exposure time: 116 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.035 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0.018 mg/l
Exposure time: 28 d
Species: Americamysis

M-Factor (Chronic aquatic toxicity) : 10

M-Factor=1 used for transport classification

difenoconazole (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.77 mg/l Exposure time: 48 h EC50 (Americamysis): 0.15 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	EC10 (Navicula pelliculosa (Freshwater diatom)): 0.0697 mg/l End point: Growth rate Exposure time: 72 h ErC50 (Desmodesmus subspicatus (green algae)): 0.0876 mg/l Exposure time: 72 h EC10 (Desmodesmus subspicatus (green algae)): 0.015 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	EC10: 0.01298 mg/l Exposure time: 34 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10: 0.0078 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) EC10: 0.00572 mg/l Exposure time: 28 d Species: Americamysis
M-Factor (Chronic aquatic toxicity)	:	10

disodium dodecyl(sulphonatophenoxy)benzenesulphonate:

Ecotoxicology Assessment

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

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

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.18 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.94 mg/l Exposure time: 48 h

Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.15 mg/l Exposure time: 72 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.055 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)
M-Factor (Chronic aquatic toxicity)	:	1

bronopol (INN):

Toxicity to algae/aquatic plants	:	NOEC (algae): 0.0025 mg/l Exposure time: 72 h EC50 (algae): 0.068 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	1

12.2 Persistence and degradability

Components:

fludioxonil (ISO):

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 450 - 700 d Remarks: Persistent in water.

difenoconazole (ISO):

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 1 d Remarks: Product is not persistent.

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

Biodegradability	:	Result: Not readily biodegradable.

bronopol (INN):

Biodegradability	:	Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

fludioxonil (ISO):

Bioaccumulation	:	Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: 4.12 (25 °C)

difenoconazole (ISO):

Bioaccumulation	:	Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: 4.4 (25 °C)

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

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

fludioxonil (ISO):

Distribution among environmental compartments	:	Remarks: immobile
Stability in soil	:	Dissipation time: 14 d Percentage dissipation: 50 % (DT50) Remarks: Product is not persistent.

difenoconazole (ISO):

Distribution among environmental compartments	:	Remarks: Slightly mobile in soils
Stability in soil	:	Dissipation time: 122 d Percentage dissipation: 50 % (DT50) Remarks: Product is not persistent.

12.5 Results of PBT and vPvB assessment

Product:

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

Components:

fludioxonil (ISO):

Assessment	:	Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

difenoconazole (ISO):

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

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

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

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 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(FLUDIOXONIL, DIFENOCONAZOLE)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(FLUDIOXONIL, DIFENOCONAZOLE)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(FLUDIOXONIL, DIFENOCONAZOLE)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(FLUDIOXONIL, DIFENOCONAZOLE)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	9	
RID	9	
IMDG	9	
IATA	9	

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous
Remarks	:	This product can be subject to exemptions when packaged in

single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

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

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable

UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	:	Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	E1	ENVIRONMENTAL HAZARDS

Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
Syngenta	:	Syngenta Occupational Exposure Limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
Syngenta / TWA	:	Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - 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 - Emergen-

cy 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	Calculation method
Aquatic Chronic 1	H410	Calculation method

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 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