

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



## VIBRANCE DUO

Version	Revision Date:	SDS Number:	Date of last issue: 10.10.2024
3.0	28.10.2024	S00037632332	Date of first issue: 05.10.2023

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

#### 1.1 Product identifier

Trade name : VIBRANCE DUO

Design code : A20078E

Product Registration Number : MAPP 17838

Unique Formula Identifier (UFI) : G9Q2-C0GA-M00T-NG2Y

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

Use of the Substance/Mixture : Fungicide, Seed treatment

#### 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)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

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

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Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H351 Suspected of causing cancer. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	:	<b>Prevention:</b> P201 Obtain special instructions before use. P261 Avoid breathing mist or vapours. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. <b>Response:</b> P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P391 Collect spillage. <b>Disposal:</b> P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

### Hazardous components which must be listed on the label:

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

### 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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
alcohols, C16-18 and C18-unsatd., ethoxylated	68920-66-1 500-236-9 01-2119489407-26-xxxx	Skin Irrit. 2; H315 Aquatic Chronic 3; H412	>= 2.5 - < 10
sedaxane	874967-67-6  616-235-00-2	Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 2; H411  M-Factor (Acute aquatic toxicity): 1	>= 1 - < 2.5
fludioxonil (ISO)	131341-86-1  608-069-00-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	>= 1 - < 2.5
poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-[tris(1-phenylethyl)phenoxy]-, ammonium salt	119432-41-6	Aquatic Chronic 3; H412	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60-xxxx	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1  specific concentration limit Skin Sens. 1A; H317	>= 0.05 - < 0.1

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		>= 0.036 %	
		Acute toxicity estimate	
		Acute oral toxicity: 450 mg/kg	
		Acute inhalation toxicity (dust/mist): 0.21 mg/l	

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.
- Risks : May cause an allergic skin reaction.  
Harmful if inhaled.  
Suspected of causing cancer.

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

- Treatment : There is no specific antidote available.

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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 (NO<sub>x</sub>)  
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.

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### 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-diol	57-55-6	TWA (particles)	10 mg/m <sup>3</sup>	GB EH40
		TWA (Total vapour and particles)	150 ppm 474 mg/m <sup>3</sup>	GB EH40
sedaxane	874967-67-6	TWA	5 mg/m <sup>3</sup>	Syngenta
fludioxonil (ISO)	131341-86-1	TWA	5 mg/m <sup>3</sup>	Syngenta

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

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic	168 mg/m <sup>3</sup>

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			effects	
	Consumers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	30 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
alcohols, C16-18 and C18-unsatd., ethoxylated	Workers	Inhalation	Long-term systemic effects	294 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	2080 mg/kg
	Consumers	Inhalation	Long-term systemic effects	87 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	1250 mg/kg
	Consumers	Oral	Long-term systemic effects	25 mg/kg
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

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

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg
alcohols, C16-18 and C18-unsatd., ethoxylated	Fresh water	0.007 mg/l
	Freshwater - intermittent	0.1 mg/l
	Marine water	0.001 mg/l
	Sewage treatment plant	10 g/l
	Fresh water sediment	22.79 mg/kg
	Marine sediment	2.28 mg/kg
	Soil	1 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	

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### 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. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 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 a particle filter (EN 143)  
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 : Particulates type (P)  
Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.

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When selecting personal protective equipment, seek appropriate professional advice.

### Environmental exposure controls

Water : 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	:	suspension
Colour	:	light red to dark red
Odour	:	No data available
Odour Threshold	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Auto-ignition temperature	:	475 °C
Decomposition temperature	:	No data available
pH	:	7.2 Concentration: 100 %w/v
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)	:	

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Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Vapour pressure : No data available

Density : 1.06 g/cm<sup>3</sup> (25 °C)

Relative vapour density : No data available

Particle characteristics  
Particle size : No data available

### 9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Evaporation rate : 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 hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Ingestion  
Inhalation

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Skin contact  
Eye contact

### Acute toxicity

Harmful if inhaled.

#### 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): 2.54 - 5.34 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

#### Components:

##### **sedaxane:**

- Acute oral toxicity : LD50 (Rat, female): 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.244 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): > 5,000 mg/kg

##### **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

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

- Acute oral toxicity : Acute toxicity estimate: 450 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

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Acute inhalation toxicity : Acute toxicity estimate: 0.21 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

### Skin corrosion/irritation

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

#### Product:

Species : Rabbit  
Result : No skin irritation

#### Components:

##### **alcohols, C16-18 and C18-unsatd., ethoxylated:**

Result : Irritating to skin.

##### **sedaxane:**

Species : Rabbit  
Result : No skin irritation

##### **fludioxonil (ISO):**

Species : Rabbit  
Result : No skin irritation

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

Species : Rabbit  
Result : Irritating to skin.

### Serious eye damage/eye irritation

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

#### Product:

Species : Rabbit  
Result : No eye irritation

#### Components:

##### **sedaxane:**

Species : Rabbit  
Result : No eye irritation

##### **fludioxonil (ISO):**

Species : Rabbit  
Result : No eye irritation

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

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

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

May cause an allergic skin reaction.

#### **Respiratory sensitisation**

Not classified due to lack of data.

#### **Product:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : The product is a skin sensitizer, sub-category 1B.

#### **Components:**

##### **sedaxane:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : Not a skin sensitizer.

##### **fludioxonil (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

### **Germ cell mutagenicity**

Not classified due to lack of data.

#### **Components:**

##### **sedaxane:**

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

##### **fludioxonil (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.

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### Carcinogenicity

Suspected of causing cancer.

### Components:

#### sedaxane:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen, At extremely high doses, numerically higher incidences of uterine, thyroid and liver tumors (male and/or female rats) and liver tumors (male mice) were within the range of normal background variation and thus considered unrelated to treatment. Some Regulatory Authorities have taken a more conservative position that these high-dose findings are treatment-related in rats and mice. The dose levels where these findings occur are not relevant to human exposure levels.

#### fludioxonil (ISO):

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

### Reproductive toxicity

Not classified due to lack of data.

### Components:

#### sedaxane:

Reproductive toxicity - Assessment : No toxicity to reproduction

#### fludioxonil (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

### STOT - single exposure

Not classified due to lack of data.

### STOT - repeated exposure

Not classified due to lack of data.

### Components:

#### sedaxane:

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

#### fludioxonil (ISO):

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

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

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

### Aspiration toxicity

Not classified due to lack of data.

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 17.8 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 36.7 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 6.23 mg/l  
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 1.53 mg/l  
End point: Growth rate  
Exposure time: 72 h

#### Components:

##### alcohols, C16-18 and C18-unsatd., ethoxylated:

Toxicity to fish : LC50 (Fish): estimated 1.26 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Aquatic invertebrates (general)): 2.6 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (algae): 2.3 mg/l  
Exposure time: 72 h

EC10 (algae): 0.33 mg/l  
End point: Biomass

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Exposure time: 72 h

### sedaxane:

- Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 0.62 mg/l  
Exposure time: 96 h
- LC50 (Pimephales promelas (fathead minnow)): 0.98 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.10 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 3 mg/l  
Exposure time: 96 h
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 1 mg/l  
End point: Growth rate  
Exposure time: 96 h
- ErC50 (Lemna gibba (gibbous duckweed)): 6.5 mg/l  
Exposure time: 7 d
- EC10 (Lemna gibba (gibbous duckweed)): 2.398 mg/l  
End point: Growth rate  
Exposure time: 7 d
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC: 0.165 mg/l  
Exposure time: 33 d  
Species: Pimephales promelas (fathead minnow)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 0.711 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### 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 : ErC50 (Raphidocelis subcapitata (freshwater green alga)):

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plants 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

### **poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-[tris(1-phenylethyl)phenoxy]-, ammonium salt:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 33 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 24 mg/l  
Exposure time: 48 h

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.18 mg/l  
Exposure time: 96 h

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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

### 12.2 Persistence and degradability

#### Components:

##### **alcohols, C16-18 and C18-unsatd., ethoxylated:**

Biodegradability : Result: rapidly biodegradable  
Remarks: Based on data from similar materials

##### **sedaxane:**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: > 1 yr  
Remarks: Persistent in water.

##### **fludioxonil (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 450 - 700 d  
Remarks: Persistent in water.

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

Biodegradability : Result: Not readily biodegradable.

### 12.3 Bioaccumulative potential

#### Components:

##### **sedaxane:**

Bioaccumulation : Remarks: Does not bioaccumulate.

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Partition coefficient: n-octanol/water : log Pow: 3.3 (25 °C)

### fludioxonil (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 4.12 (25 °C)

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

## 12.4 Mobility in soil

### Components:

#### sedaxane:

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

Stability in soil : Dissipation time: 83 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

#### fludioxonil (ISO):

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 14 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:

#### sedaxane:

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

#### fludioxonil (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).

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lative (vPvB).

### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

Waste Code : uncleaned packagings  
15 01 10, packaging containing residues of or contaminated by hazardous substances

## SECTION 14: Transport information

### 14.1 UN number or ID number

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

### 14.2 UN proper shipping name

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

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(FLUDIOXONIL, SEDAXANE)

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

**RID** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(FLUDIOXONIL, SEDAXANE)

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

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

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADN</b>	: 9	
<b>ADR</b>	: 9	
<b>RID</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

### 14.4 Packing group

**ADN**  
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.

**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

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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

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### IATA (Passenger)

Environmentally hazardous : yes

### IATA (Cargo)

Environmentally hazardous : yes

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### 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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 3

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

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

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E2 ENVIRONMENTAL HAZARDS

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
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 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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### 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.
H330	: Fatal if inhaled.
H351	: Suspected of causing cancer.
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.
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
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
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 - 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

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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; 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:

Acute Tox. 4	H332
Skin Sens. 1B	H317
Carc. 2	H351
Aquatic Chronic 2	H411

#### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method

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

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