

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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

1.1 Product identifier

Trade name : ORTIVA TOP

Design code : A13703G

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

Use of the Sub-
stance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Rosentalstrasse 67, Postfach
CH-4002 Basel
Switzerland

Telephone : +41 61 323 11 11

Telefax : +41 61 323 12 12

E-mail address of person
responsible for the SDS : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone num-
ber : +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	H302: Harmful if swallowed.
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.
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)

Hazard pictograms :



Signal word : **Warning**

SAFETY DATA SHEET

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ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

Hazard statements	:	H302 + H332 Harmful if swallowed or if inhaled. H317 May cause an allergic skin reaction. H351 Suspected of causing cancer. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	Prevention: P201 Obtain special instructions before use. P261 Avoid breathing mist or vapours. P264 Wash skin thoroughly after handling. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. Response: P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P391 Collect spillage.

Hazardous components which must be listed on the label:

azoxystrobin (ISO)
difenoconazole (ISO)
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.

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	>= 10 - < 20

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version 13.0 Revision Date: 16.09.2024 SDS Number: S1128123927 Date of last issue: 07.06.2024
Date of first issue: 10.02.2006

		Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute inhalation toxicity (dust/mist): 0.7 mg/l	
Alcohols, C16-18, ethoxylated	68439-49-6 500-212-8	Eye Irrit. 2; H319	>= 10 - < 20
difenoconazole (ISO)	119446-68-3 613-347-00-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: 1,450 mg/kg	>= 10 - < 20
Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	68425-94-5	Eye Irrit. 2; H319	>= 1 - < 10
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	>= 0.025 - < 0.036

ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

		specific concentration limit Skin Sens. 1A; H317 >= 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 | : | Harmful if swallowed or if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer. |

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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

SAFETY DATA SHEET

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ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

/ 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.

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	0.7 mg/m ³	Syngenta
difenoconazole (ISO)	119446-68-3	TWA	5 mg/m ³	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 effects	168 mg/m ³
	Consumers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m ³
	Workers	Inhalation	Long-term local ef-	10 mg/m ³

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version 13.0 Revision Date: 16.09.2024 SDS Number: S1128123927 Date of last issue: 07.06.2024
Date of first issue: 10.02.2006

			fects	
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

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
1,2-benzisothiazol-3(2H)-one	Soil	50 mg/kg
	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

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 condi-

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

- tions 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.
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** : liquid
- Colour** : light yellow to yellow
- Odour** : weak
- Odour Threshold** : No data available
- Melting point/freezing point** : No data available
- Initial boiling point and boiling range** : No data available

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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	:	505 °C
Decomposition temperature	:	No data available
pH	:	5 - 9 Concentration: 1 %w/v 7.5 - 8.5 (20 °C) Concentration: 100 %w/v
Viscosity		
Viscosity, dynamic	:	169 - 646 mPa.s (20 °C) 98.0 - 472 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Solubility(ies)		
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	:	1.11 g/cm ³ (20 °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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

Miscibility with water : Miscible

Surface tension : 27.9 mN/m, 20 °C

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

Information on likely routes of exposure : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Mouse, male and female): 1,424 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 2.06 - < 5.17 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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

Components:

azoxystrobin (ISO):

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

Acute inhalation toxicity : LC50 (Rat, female): 0.698 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

Alcohols, C16-18, ethoxylated:

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

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

difenoconazole (ISO):

Acute oral toxicity : 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

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

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

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

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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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:

azoxystrobin (ISO):

Species : Rabbit
Result : No skin irritation

Alcohols, C16-18, ethoxylated:

Species : Rabbit
Result : No skin irritation

difenoconazole (ISO):

Species : Rabbit
Result : No skin irritation

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

Species : reconstructed human epidermis (RhE)
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:

azoxystrobin (ISO):

Species : Rabbit
Result : No eye irritation

Alcohols, C16-18, ethoxylated:

Species : Rabbit

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

Result : Irritation to eyes, reversing within 7 days

difenoconazole (ISO):

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

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

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

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 : Buehler Test
Species : Guinea pig
Result : The product is a skin sensitizer, sub-category 1B.

Components:

azoxystrobin (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

Germ cell mutagenicity

Not classified due to lack of data.

Components:

azoxystrobin (ISO):

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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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.

Carcinogenicity

Suspected of causing cancer.

Components:

azoxystrobin (ISO):

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

difenoconazole (ISO):

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

Reproductive toxicity

Not classified due to lack of data.

Components:

azoxystrobin (ISO):

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

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

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.

STOT - repeated exposure

Not classified due to lack of data.

Components:

difenoconazole (ISO):

Assessment : The substance or mixture is not classified as specific target

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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.

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)): 1.7 mg/l
Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 4.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.1 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 3.09 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.23 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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

EC50 (Americamysis): 0.055 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.109 mg/l
Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.0303 mg/l
End point: Growth rate
Exposure time: 72 h

ErC50 (Skeletonema costatum (marine diatom)): 0.250 mg/l
Exposure time: 72 h

NOEC (Skeletonema costatum (marine diatom)): 0.010 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 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)

EC10: 0.2197 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: 0.00954 mg/l
Exposure time: 28 d
Species: Americamysis

M-Factor (Chronic aquatic toxicity) : 10

Alcohols, C16-18, ethoxylated:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h

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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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

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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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:

azoxystrobin (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 224 d
Remarks: Persistent in water.

Alcohols, C16-18, ethoxylated:

Biodegradability : Result: Readily biodegradable.

difenoconazole (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 d
Remarks: Product is not persistent.

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

Biodegradability : Result: Not readily biodegradable.

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

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

azoxystrobin (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

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.

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

12.4 Mobility in soil

Components:

azoxystrobin (ISO):

Distribution among environmental compartments	:	Remarks: Low mobility in soil.
Stability in soil	:	Dissipation time: 81.3 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:

azoxystrobin (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).
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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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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.
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SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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. |

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

14.3 Transport hazard class(es)

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

	Class	Subsidiary risks
ADN	: 9	
ADR	: 9	
RID	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

ADN

Packing group	: III
Classification Code	: M6
Hazard Identification Number	: 90
Labels	: 9
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
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

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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

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

Chemical Risk Reduction Ordinance (ORRChem, SR 814.81) : Conditions of restriction for the following annexes should be considered:

Annex 1.11 Dangerous liquid substances

PIC Ordinance, ChemPICO (814.82) : Not applicable

Ordinance on Protection against Major Accidents

Threshold quantity according to Major Accidents Ordinance (MAO 814.012) : Not applicable

Waters Protection Ordinance (WPO 814.201)

Water pollution class : Class A

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

Remarks: self classification

Other regulations:

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

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.
H330	:	Fatal if inhaled.
H331	:	Toxic if inhaled.
H351	:	Suspected of causing cancer.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
Syngenta	:	Syngenta Occupational Exposure Limit
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; AIIIC - 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 -

SAFETY DATA SHEET

according to Chemicals Ordinance (ChemO 813.11)



ORTIVA TOP

Version	Revision Date:	SDS Number:	Date of last issue: 07.06.2024
13.0	16.09.2024	S1128123927	Date of first issue: 10.02.2006

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:

Acute Tox. 4	H302
Acute Tox. 4	H332
Skin Sens. 1B	H317

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

Carc. 2	H351	Calculation method
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.

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