

ORTIVA

Version 12.0 Revision Date: 18.02.2016 SDS Number: S162304165 This version replaces all previous versions.

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

1.1 Product identifier

Trade name : **ORTIVA**

Design code : A12705A

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 SA (Pty) Ltd
P.O. Box 1044,
No. 4 Krokodil drift Avenue Brits 0250
South Africa

Telephone : +27 12 250 6300

Telefax : +27 12 250 3125

E-mail address : sds.ch@syngenta.com

1.4 Emergency telephone number

**Emergency telephone
number** : +27 (0) 82 446 8946 (Griffon)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.

Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

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

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions

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EUH208

for use.
Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

Precautionary statements : **Response:**
P391
Disposal:
P501

Collect spillage.

Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
azoxystrobin	131860-33-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 20 - < 25
naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt	Not Assigned	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 3
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	< 0.05

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

If inhaled : Move the victim to fresh air.

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- If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : There is no specific antidote available.
Treat symptomatically.

SECTION 5: 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.

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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).

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
azoxystrobin	131860-33-8	TWA	4 mg/m ³	Syngenta

8.2 Exposure controls

Engineering measures

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

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

If airborne mists or vapors are generated, use local exhaust ventilation controls.

Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection
Remarks : No special protective equipment required.

Skin and body protection : No special protective equipment required.
Select skin and body protection based on the physical job requirements.

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.
Personal protective equipment should be certified to appropriate standards.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : suspension

Colour : off-white to yellow-orange

Odour : Chemical

pH : 6 - 8, Concentration: 1 % w/v

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Density : 1.09 g/cm³ (20 °C)

Auto-ignition temperature : 640 °C

Viscosity
Viscosity, dynamic : 100 - 1,854 mPa.s (20 °C)
77 - 1,635 mPa.s (40 °C)

Explosive properties : Classification Code: Not explosive

Oxidizing properties : not oxidizing

9.2 Other information

Surface tension : 36.5 mN/m, 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3 "Possibility of hazardous reactions".

10.2 Chemical stability

The product is stable when used in normal conditions

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 6.32 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:

azoxystrobin:

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- LC50 (Rat, male): 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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

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

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

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

Skin corrosion/irritation

Product:

Species: Rabbit
Result: No skin irritation

Components:

azoxystrobin:

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Species: Rabbit
Result: No skin irritation

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

Species: Rabbit
Result: Irritating to skin.

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

Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: No eye irritation

Components:

azoxystrobin:

Species: Rabbit
Result: No eye irritation

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

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

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

Result: Irreversible effects on the eye

Respiratory or skin sensitisation

Product:

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

Components:

azoxystrobin:

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

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

Method: Based on Human Evidence
Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

azoxystrobin:

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

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Carcinogenicity

Components:

azoxystrobin:

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

Reproductive toxicity

Components:

azoxystrobin:

Reproductive toxicity - Assessment : No toxicity to reproduction

Repeated dose toxicity

Components:

azoxystrobin:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.2 mg/l
Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 2.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.83 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 2.2 mg/l

Components:

azoxystrobin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.28 mg/l
Exposure time: 48 h

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

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2 mg/l
Exposure time: 96 h

NOErC (Pseudokirchneriella subcapitata (green algae)): 0.038

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mg/l
Exposure time: 96 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to bacteria : IC50 (Pseudomonas putida): > 3.2 mg/l
Exposure time: 6 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.16 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

NOEC: 0.147 mg/l
Exposure time: 33 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.044 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0.0095 mg/l
Exposure time: 28 d
Species: Americamysis bahia (Mysid shrimp)

M-Factor (Chronic aquatic toxicity) : 10

1,2-benzisothiazol-3(2H)-one:
Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.

12.2 Persistence and degradability

Components:

azoxystrobin:

Biodegradability : Result: Not readily biodegradable.

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

12.3 Bioaccumulative potential

Components:

azoxystrobin:

Bioaccumulation : Remarks: Does not bioaccumulate.

12.4 Mobility in soil

Components:

azoxystrobin:

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

Stability in soil : Percentage dissipation: 50 % (DT50: 80 d)
Remarks: Not persistent in soil.

12.5 Results of PBT and vPvB assessment

Product:

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

Components:

azoxystrobin:

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

12.6 Other adverse effects

Product:

Additional ecological information : Remarks: No data available

Components:

azoxystrobin:

Additional ecological information : Remarks: No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Contaminated packaging : Dispose of as unused product.

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SECTION 14: Transport information

Land transport (ADR/RID)

14.1 UN number:	UN 3082
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9
14.5 Environmental hazards :	Environmentally hazardous
Tunnel restriction code:	E

Sea transport(IMDG)

14.1 UN number:	UN 3082
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9
14.5 Environmental hazards :	Marine pollutant

Air transport (IATA-DGR)

14.1 UN number:	UN 3082
14.2 UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (AZOXYSTROBIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9

14.6 Special precautions for user

none

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

Not applicable

SECTION 15: Regulatory information

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

Other regulations : Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

15.2 Chemical safety assessment

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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.
H331	: Toxic if inhaled.
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	: Acute aquatic toxicity
Aquatic Chronic	: Chronic aquatic toxicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation

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

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

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guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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