

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## MAXIM QUATTRO

Version 7.0      Revision Date: 17.07.2017      SDS Number: S1396467671      This version replaces all previous versions.

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

#### 1.1 Product identifier

Trade name : MAXIM QUATTRO  
Design code : A14918D

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

Use of the Substance/Mixture : Seed treatment

#### 1.3 Details of the supplier of the safety data sheet

Company : Syngenta SA (Pty) Ltd  
P.O. Box 1044,  
No. 4 Krokodildrift 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)

Skin sensitisation, Sub-category 1B

H317: May cause an allergic skin reaction.

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 : H317 May cause an allergic skin reaction.

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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 for use.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves.  
**Response:**  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

Hazardous components which must be listed on the label:

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

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
thiabendazol (ISO)	148-79-8 205-725-8 613-054-00-0	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 25 - < 30
fludioxonil	131341-86-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 10
metalaxyl-M (ISO)	70630-17-0 612-163-00-0	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 1 - < 3
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-	99734-09-5	Aquatic Chronic 3; H412	>= 1 - < 2.5
azoxystrobin	131860-33-8 607-256-00-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 0.0025 - < 0.025

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		Aquatic Acute 1; H400	
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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 : No symptoms known or expected.

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

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

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

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

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### 5.2 Special hazards arising from the substance or mixture

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

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

### 6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out

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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
thiabendazol (ISO)	148-79-8	TWA (inhalable dust)	10 mg/m <sup>3</sup>	CH SUVA
Further information	Harm to the unborn child is not to be expected when the OEL-value is respected			
	148-79-8	TWA	5 mg/m <sup>3</sup>	Syngenta
fludioxonil	131341-86-1	TWA	5 mg/m <sup>3</sup>	Syngenta
metalaxyl-M (ISO)	70630-17-0	TWA	5 mg/m <sup>3</sup>	Syngenta
azoxystrobin	131860-33-8	TWA	4 mg/m <sup>3</sup>	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.

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

#### Personal protective equipment

Eye protection : No special protective equipment required.

#### Hand protection

Material : Nitrile rubber  
Break through time : > 480 min  
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break

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through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

- Skin and body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Remove and wash contaminated clothing before re-use.  
Wear as appropriate:  
Impervious clothing
- Respiratory protection** : No personal respiratory protective equipment normally required.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

- : opaque, liquid
- Colour** : light red
- Odour** : Mild aromatic
- Odour Threshold** : No data available
- pH** : 6.7 (25 °C)  
Concentration: 1 % w/v
- Melting point/range** : No data available
- Boiling point/boiling range** : No data available
- Flash point** : > 101 °C
- Evaporation rate** : No data available
- Flammability (solid, gas)** : No data available
- Upper explosion limit** : No data available
- Lower explosion limit** : No data available

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Relative vapour density : No data available

Density : 1.13 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Solubility in other solvents : No data available

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

Auto-ignition temperature : 625 °C

Decomposition temperature : No data available

Viscosity  
Viscosity, dynamic : 82.8 - 549 mPa.s (20 °C)  
69.4 - 501 mPa.s (40 °C)

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.  
No data available

### 9.2 Other information

Surface tension : 40.2 mN/m, 0.1 %

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## 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.

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### 10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.55 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  
Assessment: The substance or mixture has no acute dermal toxicity

##### Components:

##### **thiabendazol (ISO):**

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.53 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:**

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

##### **metalaxyl-M (ISO):**

Acute oral toxicity : LD50 (Rat, male): 953 mg/kg



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LD50 (Rat, female): 375 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.29 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Highest attainable concentration

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

**poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:**  
Acute oral toxicity

: LD50 Oral (Rat): 5,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

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

**azoxystrobin:**  
Acute oral toxicity

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

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

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

**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

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### Components:

#### **thiabendazol (ISO):**

Species: Rabbit  
Result: No skin irritation

#### **fludioxonil:**

Species: Rabbit  
Result: No skin irritation

#### **metalaxyl-M (ISO):**

Species: Rabbit  
Result: No skin irritation

#### **poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:**

Species: Rabbit  
Result: No skin irritation

#### **azoxystrobin:**

Species: Rabbit  
Result: No skin irritation

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

Result: Irritating to skin.

#### **Serious eye damage/eye irritation**

### Product:

Species: Rabbit  
Result: No eye irritation

### Components:

#### **thiabendazol (ISO):**

Species: Rabbit  
Result: No eye irritation

#### **fludioxonil:**

Species: Rabbit  
Result: No eye irritation

#### **metalaxyl-M (ISO):**

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

#### **poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:**

Species: Rabbit  
Result: No eye irritation

#### **azoxystrobin:**

Species: Rabbit  
Result: No eye irritation

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

Result: Risk of serious damage to eyes.

### **Respiratory or skin sensitisation**

#### **Product:**

Test Type: Buehler Test

Species: Guinea pig

Result: The product is a skin sensitiser, sub-category 1B.

#### **Components:**

#### **thiabendazol (ISO):**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

#### **fludioxonil:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

#### **metalaxyl-M (ISO):**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

#### **azoxystrobin:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

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

Result: Probability or evidence of skin sensitisation in humans

### **Germ cell mutagenicity**

#### **Components:**

#### **thiabendazol (ISO):**

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

#### **fludioxonil:**

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

#### **metalaxyl-M (ISO):**

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

#### **poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:**

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

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### Assessment

#### **azoxystrobin:**

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

### **Carcinogenicity**

#### **Components:**

#### **thiabendazol (ISO):**

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

#### **fludioxonil:**

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

#### **metalaxyl-M (ISO):**

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

#### **azoxystrobin:**

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

### **Reproductive toxicity**

#### **Components:**

#### **thiabendazol (ISO):**

Reproductive toxicity - Assessment : No toxicity to reproduction

#### **fludioxonil:**

Reproductive toxicity - Assessment : No toxicity to reproduction

#### **metalaxyl-M (ISO):**

Reproductive toxicity - Assessment : No toxicity to reproduction

#### **azoxystrobin:**

Reproductive toxicity - Assessment : No toxicity to reproduction

### **STOT - repeated exposure**

#### **Components:**

#### **metalaxyl-M (ISO):**

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

### Repeated dose toxicity

#### Components:

##### **thiabendazol (ISO):**

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

##### **fludioxonil:**

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

##### **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)): 3.3 mg/l<br>Exposure time: 96 h             |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1.7 mg/l<br>Exposure time: 48 h                      |
| Toxicity to algae                                   | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 11.0 mg/l<br>Exposure time: 96 h |

#### **Ecotoxicology Assessment**

- |                          |   |                                                                                                                                                                |
|--------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute aquatic toxicity   | : | Very toxic to aquatic life., Classification of the product is based on the summation of the concentrations of classified components.                           |
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components. |

#### Components:

##### **thiabendazol (ISO):**

- |                                                     |   |                                                                                                                                                       |
|-----------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 0.55 mg/l<br>Exposure time: 96 h                                                                          |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.81 mg/l<br>Exposure time: 48 h<br><br>LC50 (Americamysis bahia (Mysid shrimp)): 0.34 mg/l<br>Exposure time: 96 h |
| Toxicity to algae                                   | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 14.7 mg/l<br>Exposure time: 96 h                                                               |

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- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.53 mg/l  
End point: Growth rate  
Exposure time: 96 h
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 0.012 mg/l  
Exposure time: 69 d  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.041 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- M-Factor (Chronic aquatic toxicity) : 1

### fludioxonil:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 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
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l  
Exposure time: 96 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l  
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): > 100 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)

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

M-Factor (Chronic aquatic toxicity) : 10, M-Factor=1 used for transport classification

### metalaxyl-M (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (algae)): 271 mg/l  
Exposure time: 96 h  
NOEC (Pseudokirchneriella subcapitata (algae)): 19.7 mg/l  
End point: Growth rate  
Exposure time: 96 h

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 50 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 25 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 21 mg/l  
Exposure time: 96 h

### Ecotoxicology Assessment

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

### 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

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Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.038 mg/l

End point: Growth rate

Exposure time: 96 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l

Exposure time: 96 h

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)

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:

##### thiabendazol (ISO):

Biodegradability : Result: Not readily biodegradable.

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

##### fludioxonil:

Biodegradability : Result: Not readily biodegradable.



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### **metalaxyl-M (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 22.4 - 47.5 d  
Remarks: Product is not persistent.

### **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:

#### **thiabendazol (ISO):**

Bioaccumulation : Remarks: Does not bioaccumulate.

#### **fludioxonil:**

Bioaccumulation : Remarks: Does not bioaccumulate.

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

#### **metalaxyl-M (ISO):**

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 1.71 (25 °C)

#### **azoxystrobin:**

Bioaccumulation : Remarks: Does not bioaccumulate.

## 12.4 Mobility in soil

### Components:

#### **thiabendazol (ISO):**

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

Stability in soil : Dissipation time: 33 d - 2 y  
Percentage dissipation: 50 % (DT50)  
Remarks: Persistent in soil.

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### fludioxonil:

Distribution among environmental compartments : Remarks: immobile

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

### metalaxyl-M (ISO):

Distribution among environmental compartments : Remarks: Metalaxyl has a range from low to very high mobility in soil depending on soil type.

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

### azoxystrobin:

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

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

## 12.5 Results of PBT and vPvB assessment

### Product:

Assessment

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

### Components:

#### thiabendazol (ISO):

Assessment

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

#### fludioxonil:

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)..

#### metalaxyl-M (ISO):

Assessment

: This substance is not considered to be persistent,

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

### poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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)..

### 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

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.<br>Do not dispose of waste into sewer.<br>Where possible recycling is preferred to disposal or incineration.<br>If recycling is not practicable, dispose of in compliance with local regulations. |
| Contaminated packaging | : Empty remaining contents.<br>Triple rinse containers.<br>Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>Do not re-use empty containers.                                                                                        |

## SECTION 14: Transport information

### 14.1 UN 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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(THIABENDAZOLE AND FLUDIOXONIL)

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

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

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

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

### 14.3 Transport hazard class(es)

**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

**ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)

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

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

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

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### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

### IATA (Passenger)

Marine pollutant : yes

### IATA (Cargo)

Marine pollutant : yes

### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals

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 (EC) No 850/2004 on persistent organic pollutants : 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.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

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

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

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regulations, where applicable.

Youth Employment Protection Regulation (ArGV 5, SR 822 115): Adolescents up to completion of their 18th year are only allowed to come in contact or get exposed to this product at their place of work if the Federal Office for Professional Education and Technology (BBT) or the State Secretariat for Economic Affairs (SECO) has granted an exemption.

### 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.
H331	:	Toxic if inhaled.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Dam.	:	Serious eye damage
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;

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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

### Further information

#### Classification of the mixture:

Skin Sens. 1B	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

On basis of test data.
On basis of test data.
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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