

# ORIUS®

An oil in water emulsion containing 200 g/l (20.0% w/w) tebuconazole.  
A broad-spectrum fungicide for the control of a wide range of diseases in wheat, oats, rye, triticale, barley, oilseed rape and field beans.

## FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crop	Maximum Individual dose (L product/ha)	Maximum Total Dose (L product/ha/crop)	Latest Time of Application
Barley, oats, rye, triticale & wheat	1.25	2.5	End of flowering (GS 69)
Oilseed rape	1.25	1.25	End of flowering (GS 69)
Field beans	1.0	1.0	35 days before harvest

### Other Specific Restrictions:

A minimum interval of 14 days applies between applications.  
To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

**Method of application:** Tractor mounted/trailed sprayer

### Additional Safety Phrases

Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

### Authorisation Holder & Marketing Company

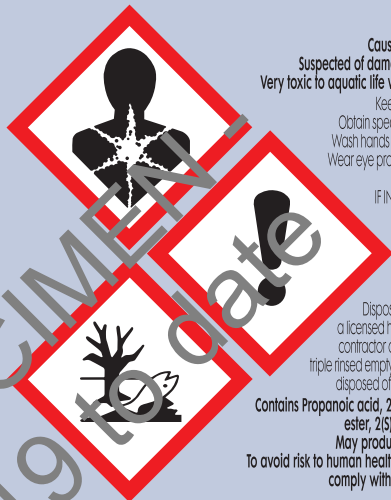
Nufarm UK Limited  
Wyke Lane, Wyke, Bradford, West Yorkshire, BD12 9EJ  
United Kingdom

**Technical Helpline telephone number +44 (0)1274 694714**  
**24-hour emergency telephone number +44 (0)1274 696603**

FOR PROFESSIONAL USE ONLY  
SHAKE WELL BEFORE USE  
PROTECT FROM FROST

# 5 L

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### Safety Information

#### WARNING

Causes serious eye irritation  
Suspected of damaging the unborn child.  
Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.  
Obtain special instructions before use.  
Wash hands thoroughly after handling.  
Wear eye protection/protective gloves/  
face protection.

IF IN EYES rinse cautiously with  
water for several minutes.  
Remove contact lenses, if  
present and easy to do  
so - continue rinsing.  
Collect spillage.

Dispose of contents/container to  
a licensed hazardous waste disposal  
contractor or collection site except for  
triple rinsed empty containers which can be  
disposed of as non-hazardous waste.

Contains Propanoic acid, 2-hydroxy-, 2-ethylhexyl  
ester, 2(5)- and rosin; colophony.  
May produce an allergic reaction.

To avoid risk to human health and the environment,  
comply with the instructions for use.

PCS No 04648

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET

 **Nufarm**  
Grow a better tomorrow

## DIRECTIONS FOR USE

### GENERAL INFORMATION

ORIOUS™ is a systemic fungicide. It is rapidly absorbed into the vegetative parts of the plant and then translocated through the plant. It controls a wide range of diseases in a wide range of crops. For best disease control, apply as soon as disease appears, before spread to new growth. Application to established diseases may be less effective.

### RESTRICTIONS

After application to wheat, some transient leaf speckling may occur, and on oats some leaf reddening or scorch may be observed. These are normally outgrowth and do not affect yield.

CONSULT PROCESSOR BEFORE USE ON CROPS GROWN FOR PROCESSING.

### DISEASES CONTROLLED

	Wheat	Barley	Oats	Rye	Triticale
Septoria tritici blotch ( <i>Zymoseptoria tritici</i> )	R	-	-	-	R
Septoria glume blotch ( <i>Septoria nodorum</i> )	C				C
Yellow Rust ( <i>Puccinia striiformis</i> )	C	C		C	C
Brown rust	C	C			
Fusarium ear blight	R				
Sooty moulds	R				
Powdery mildew	MC	R	C	C	MC
Crown rust					
Leaf Scald ( <i>Rhynchosporium secalis</i> )	-	MC	-	MC	
<b>C = control, MC = Moderate control, R = Reduction</b>					

### Oilseed rape

Control of: Light leaf spot, Phoma leaf spot/stem canker, Dark leaf & pod spot (*Alternaria* spp.)

Reduction of: Stem rot (*Sclerotinia sclerotiorum*)

### Field beans

Moderate control of: Chocolate spot and bean rust

### RESISTANCE MANAGEMENT

ORIOUS contains tebuconazole, a DMI fungicide (mode of action code G1 and classified as FRAC code 3).

To avoid resistance, do not apply repeated applications of ORIOUS alone on the same crop against the same disease. In such situations, use an appropriate tank-mixture or alternate with another fungicide with a different mode of action. Where resistance occurs, ORIOUS may not give adequate disease control. Consult the latest advice from FRAC regarding disease resistance strategies.

ORIOUS contains a DMI fungicide. Resistance to some DMI fungicides has been identified in *Septoria* leaf blotch (*Mycosphaerella graminicola*) which may seriously affect the performance of some products. ORIOUS is not recommended for the control of this disease. For further advice on resistance management in DMIs, contact your agronomist or specialist advisor. The efficacy of this product may be affected if strains of disease pathogens resistant or less sensitive occur at any time. As such occurrences cannot be predicted, the possibility can be accepted for the results obtained.

The possible development of diseases with reduced sensitivity to triazoles should not be excluded or predicted. Where these occur or develop, ORIOUS may not give satisfactory control.

Strains of light leaf spot resistant to azole fungicides are known to exist. To avoid development of resistance, apply product protectively in response to disease to crops. Where possible, when light leaf spot is present, use a fungicide with an alternative mode of action or mixes containing an alternative mode of action when targeting other diseases such as *Sclerotinia* at maturity.

For current advice on resistance management, contact your agronomist or specialist advisor.

### CROP SPECIFIC INFORMATION

#### BARLEY, OATS, RYE, TRITICALE AND WHEAT

**Application Rate:** 1.25 L/ha

**Application Timing:** Only one application should be applied to cereals (barley, oats, rye, triticale and wheat) before BBCH 40 (in the application window BBCH 30-39). If a second application is required before BBCH 40, an alternative product (not containing tebuconazole) should be used.

Apply soon after ear emergence to give reduction of *Botrytis*, *Fusarium* ear blight and sooty moulds.

Yellow and brown rust on wheat, barley, rye and triticale; powdery mildew and crown rust in oats; *Rhynchosporium* in barley and rye

Apply at first sign of disease, this may be at any time from beginning of stem elongation (GS 30) onwards. A 2nd application may be required if disease pressure remains high. There should be a minimum interval of 2 weeks. The 2nd application should not be applied before early boot stage, flag leaf sheath extending (GS 41).

Powdery mildew in wheat, barley, rye and triticale Apply at first sign of disease, this may be at any time from beginning of stem elongation (GS 30) onwards. A 2nd application may be required if disease pressure remains high. There should be a minimum interval of 2 weeks. The 2<sup>nd</sup> application should not be applied before early boot stage. flag leaf sheath extending (GS 41). Please refer to resistance section for more details.

**Water Volume:** 160 – 200 L water/ha.

### **OILSEED RAPE (spring application only)**

**Application Rate:** 1.25 L/ha

#### **Application Timing:**

Light leaf spot

Apply 1.25 L/ha as disease appears in the spring, from the onset of stem extension. This application will also give some reduction of ringspot if present at time of application.

*Alternaria* spp

(dark leaf and pod spot)

Apply 1.25 L/ha as disease appears i.e. when black pin-head spots first appear on the pods.

*Sclerotinia* stem rot

Apply 1.25 L/ha at early to full flowering. Will give some reduction of *Sclerotinia* stem rot.

**Water Volume:** 160 – 200 L water/ha

### **FIELD BEANS**

**Application Rate:**

1.0 L/ha

#### **Application Timing:**

Chocolate spot  
(*Botrytis cinerea*)

Apply as disease appears from early flowering. A second spray with an alternative product may be required 3-4 weeks later if disease pressure remains high.

**Water Volume:** 160 – 120 L water/ha

If disease pressure remains high, application of an alternative effective product may be required to maintain control and to comply with the timing restrictions necessary for ORIUS.

#### **WATER VOLUME**

Apply in 160-200 L water/ha. In cereals, in denser crops, a water volume of 300 L/ha may be required. For oilseed rape, a water volume of 400 L/ha may be required in dense crops.

Apply as a medium spray as defined by BCPC.

#### **FOLLOWING CROPS**

There are no restrictions on following crops.

#### **MIXING**

Before spraying it is important to check all hoses, filters and nozzles, and to ensure that the sprayer is clean and correctly calibrated to give an accurate application of the correct volume. Half-fill sprayer tank with clean water. Add the required amount of ORIUS to the water and commence agitation. On emptying the container, RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of container safely. Add the remainder of the water whilst continuing to agitate the mixture until spraying is complete. Maintain agitation during the mixing process and continue until the spraying is complete. Do not leave in spray tank for long periods without using.

Crops should not be re-entered until spray residues are dry.

### **COMPANY ADVISORY INFORMATION**

#### **ACKNOWLEDGMENTS**

ORIOUS is a registered trademark.

#### **CONDITIONS OF SUPPLY**

All goods supplied by us are of high grade and we believe them to be suitable unless we cannot exercise any control over their mixing or use) all conditions and warranties, statutory or otherwise, as to the quality and fitness for any purpose of our goods are excluded, except in so far as such exclusion is prevented by law, and no responsibility will be accepted by us for any damage or injury whatsoever arising from the storage, handling, application or use.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at users risk.

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

### 1.1. Product identifier

CA Code (Nufarm): 3550  
Product form: Mixture  
Trade name: Orius  
Type (Nufarm): Country Specific  
Country (Nufarm): Ireland

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

#### 1.2.1. Relevant identified uses

Main use category Professional use, Industrial use  
Use of the substance/mixture Fungicide

#### 1.2.2. Uses advised against

No additional information available

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

#### Distributor

Nufarm UK Limited  
Wyke Lane  
Wyke  
BD12 9EJ Bradford - UK  
T +44 (0)1274 691234 - F +44 (0) 1274691776  
info.uk@uk.nufarm.com

### 1.4. Emergency telephone number:

Emergency number: +44 (0)1274 696630

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP)

Serious eye damage/eye irritation, Category 2, H315  
Reproductive toxicity, Category 2, H361D  
Hazardous to the aquatic environment — H410  
Chronic Hazard, Category 1

Full text of hazard classes and H-statements : see section 10

### Adverse physicochemical, human health and environmental effects

Causes serious eye damage. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects. Suspected of damaging fertility or the unborn child. Causes serious eye irritation.

### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictograms (CLP)



GHS07



GHS08



GHS09

Signal word (CLP)  
Hazardous ingredients

Hazard statements (CLP)

Precautionary statements (CLP):

EUH-statements:

Additional phrases:

Warning  
tebuconazole (ISO), 1-[4-chlorophenyl]-4,4-dimethyl-3-[1,2,4-triazol-1-ylmethyl]pentan-3-ol; Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-; Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt; rosin; colophony  
H319 - Causes serious eye irritation.  
H361d - Suspected of damaging the unborn child.  
H410 - Very toxic to aquatic life with long lasting effects.

P102 - Keep out of reach of children.  
P201 - Obtain special instructions before use.  
P280 - Wear protective gloves, protective clothing, face protection, eye protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P501 - Dispose of contents and container in accordance with local, regional, national and/or international regulation.  
EUH401 - To avoid risks to human health and the environment, comply with the instructions for use.  
EUH208 - Contains Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)- and rosin; colophony.  
May produce an allergic reaction.  
SP1 - Do not contaminate water or the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads)

### 2.3. Other hazards

No additional information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 (CLP)
Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-	(CAS-No.) 186817-80-1 (EC-No.) 606-097-1 (REACH-no) 01-2119516238-4)	56-62	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
tebuconazole (ISO), 1-[4-chlorophenyl]-4,4-dimethyl-3-[1,2,4-triazol-1-ylmethyl]pentan-3-ol	(CAS-No.) 107534-96-3 (EC-No.) 403-640-2 (EC Index-No.) 603-197-00-7	18-22	Acute Tox. 4 (Oral), H302 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410 (M=10)

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 (CLP)
rosin;colophony	[CASNo.]8050-09-7 [ECNo.]232-475-7 [EC IndexNo.]650-015-00-7 [REACHno.]01-2119480418-32	2-5	Skin Sens. 1, H317
Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt	[CASNo.]577-11-7 [ECNo.]209-406-4 [REACHno.]01-2119491296-29	2-4	Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of H-statements: see section 16.

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

#### First-aid measures general:

If exposed or concerned: Get medical advice/attention. See material safety data sheet.

#### First-aid measures after inhalation:

Remove person to fresh air and keep comfortable for breathing.

#### First-aid measures after skin contact:

Gently wash with plenty of soap and water. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

#### First-aid measures after eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### First-aid measures after ingestion:

Call a poison center or a doctor if you feel unwell. Rinse mouth out with water. Drink plenty of water. Do not induce vomiting.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation: None under normal use.  
Symptoms/effects after skin contact: May cause sensitisation of susceptible persons. None under normal conditions.  
Symptoms/effects after eye contact: Eye irritation.  
Symptoms/effects after ingestion: None under normal conditions.

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

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

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

Hazardous decomposition products in case of fire: Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

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

#### 6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and materials for containment and cleaning up

For containment: Collect spillage.

Methods for cleaning up: Take up liquid spill into absorbent material.

Notify authorities if product enters sewers or public waters.

Other precautions: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 33.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool. Information on mixed storage: Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Special rules on packaging: Keep only in original container. Store in a closed container.

### 7.3. Specific end use(s)

No additional information available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

Protective gloves:

Type: Reusable gloves

Material: Rubber, Plastic

#### Eye protection:

Safety glasses, Safety goggles

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.



Environmental exposure controls:  
Avoid release to the environment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Physical state:	Liquid
Appearance:	clear
Colour:	Yellow
Odour:	Organic solvent
Odour threshold:	No data available
pH:	4.6 - 5.6
pH solution concentration:	1% CIPAC MT 75.3
Relative evaporation rate: (butylacetate=1):	No data available
Melting point:	Not applicable
Freezing point:	No data available
Boiling point:	No data available
Flash point:	86 °C EEC A.9
Auto-ignition temperature:	270 °C EEC A.15
Decomposition temperature:	No data available
Flammability (solid, gas):	Not applicable
Vapour pressure:	No data available
Relative vapour density at 20 °C:	No data available
Relative density:	0.9 - 1.1 OECD 109
Solubility:	No data available
Log P <sub>ow</sub> :	No data available
Viscosity, kinematic:	21.9 mm <sup>2</sup> /s 40 °C OECD 114 CIPAC MT 192
Viscosity, dynamic:	No data available
Explosive properties:	Product is not explosive
Oxidising properties:	Not oxidising material according to EC criteria
Explosive limits:	No data available

### 9.2. Other information

No additional information available

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).  
High temperature.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition

products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Orius	
LD50 oral rat	> 2000 mg/kg (OECD 423 method)
LD50 dermal rat	> 2000 mg/kg (OECD 402 method)
LC50 inhalation rat (mg/l)	> 5.4 mg/l/4h (OECD 403 method)

Ilebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
LD50 oral rat	1700 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	5.093 mg/l/4h

Bis(2-ethylhexyl) sebacate, sodium salt (57-11-7)	
LD50 oral rat	3080 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	20 mg/l/4h

#### Acute toxicity (oral):

Not classified.

#### Acute toxicity (dermal):

Not classified.

#### Acute toxicity (inhalation):

Not classified.

#### Skin corrosion/irritation:

rabbit (Based on available data, the classification criteria are not met)

pH: 4.6 - 5.6

#### Serious eye damage/irritation:

rabbit

pH: 4.6 - 5.6

#### Respiratory or skin sensitisation:

Guinea pig (Based on available data, the classification criteria are not met)

#### Germ cell mutagenicity:

Not classified (Based on available data, the classification criteria are not met)

#### Carcinogenicity:

Not classified (Based on available data, the classification criteria are not met)

#### Reproductive toxicity:

Suspected of damaging the unborn child.

Ilebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
NOAEL (animal/male, F0/P)	72.3 mg/kg rat

STOT-single exposure:

Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure:

Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard:

Not classified (Based on available data, the classification criteria are not met)

Orius	
Viscosity, kinematic	21.9 mm <sup>2</sup> /s 40°C, OECD 114 CIPAC MT 192

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Orius	
LC50 96h fish	19.7 mg/l <i>Oncorhynchus mykiss</i> , OECD 203
EC50 48h crustacea	29.5 mg/l OECD 202
EC50 72h algae	15.5 mg/l <i>Scenedesmus Subspicatus</i> , OECD 201
Additional Ecotox information	

tebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
LC50 96h fish	4.4 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
EC50 48h crustacea	2.79 mg/l <i>Daphnia magna</i>
EC50 72h algae	2.83 mg/l <i>Selenastrum capricornutum</i>
ErC50 (algae)	0.144 mg/l <i>Lemna gibba</i> (duckweed); 1/d
Additional Ecotox information	
Birds (Bobwhite quail) Oral LD50 1988 mg/kg Apis mellifera (bees) Oral LD50 83.05 µg/bee, 2d Apis mellifera (bees) Contact LD50: > 200 µg/bee, 2d	

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)- (186817-80-1)	
Additional Ecotox information	

Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt (577-11-7)	
LC50 96h fish	20 - 40 mg/l (Exposure time: 96 h - Species: <i>Oncorhynchus mykiss</i> (semi-static))
LC50 96h fish	< 24 mg/l (Exposure time: 96 h - Species: <i>Oncorhynchus mykiss</i> (static))
EC50 48h crustacea	36 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i> )
Additional Ecotox information	

rosin; colophony (8050-09-7)	
Additional Ecotox information	

### 12.2. Persistence and degradability

tebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
Persistence and degradability	Not readily biodegradable.
Biodegradability	DT50 365d (Water); 34.8d (Soil)

### 12.3. Bioaccumulative potential

tebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
Bioconcentration factor (BCF REACH)	78
Log Pow	3.7 20°C; pH7
Bioaccumulative potential	No bioaccumulation.

Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt (577-11-7)	
BCF fish 1	3.47 - 3.78

### 12.4. Mobility in soil

Orius	
Surface tension	31.1 mN/m 20.2°C, EEC A.5 OECD 115

tebuconazole (ISO), 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol (107534-96-3)	
Mobility in soil	Koc 769

## 12.5. Results of PBT and vPvB assessment

No additional information available

## 12.6. Other adverse effects

No additional information available

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

## 14. TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

3082

### 14.2. UN proper shipping name

ADR	IMDG	IATA
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole)	Environmentally hazardous substance, liquid, n.o.s. (Tebuconazole)
<b>Transport document description</b>		
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole), 9, III, H	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Tebuconazole), 9, III

### 14.3. Transport hazard class(es)

9



### 14.4. Packaging group

III

### 14.5. Environmental hazards

ADR	IMDG	IATA
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

## 14.6. Special precautions for user

### Overland transport

Classification code (ADR): M6  
Special provisions (ADR): 274, 335, 375, 601  
Limited quantities (ADR): 51  
Exempted quantities (ADR): E1  
Packing instructions (ADR): P001, IBC03, LP01, R001  
Special packing provisions (ADR): PPI  
Mixed packing provisions (ADR): MP19  
Portable tank and bulk container instructions (ADR): T4  
Portable tank and bulk container special provisions (ADR): TPI, TP29  
Tank code (ADR): LGBV  
Vehicle for tank carriage: AT  
Transport category (ADR): 3  
Special provisions for carriage - Packages (ADR): V12  
Special provisions for carriage - Loading, unloading and handling (ADR): CV13  
Hazard identification number (Kemler No.): 90  
Orange plate:



Tunnel restriction code (ADR): -

### Transport by sea

Special provisions (IMDG): 274, 335, 969  
Limited quantities (IMDG): 5 L  
Exempted quantities (IMDG): E1  
Packing instructions (IMDG): P001, LP01  
Special packing provisions (IMDG): PPI  
IBC packing instructions (IMDG): IBC03  
Tank instructions (IMDG): T4  
Tank special provisions (IMDG): TP2, TP29  
ERG No (fire): F-A  
ERG No. (Spillage): S-F  
Stowage category (IMDG): A

### Air transport

PCA Exempted quantities (IATA): E1  
PCA Limited quantities (IATA): Y964  
PCA limited quantity max net quantity (IATA): 30kgG  
PCA packing instructions (IATA): 964  
PCA max net quantity (IATA): 450L  
CAO packing instructions (IATA): 964  
CAO max net quantity (IATA): 450L  
Special provisions (IATA): A97, A158, A197  
ERG code (IATA): 9L

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

Not applicable

## 15. REGULATORY INFORMATION

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions.  
Contains no substance on the REACH candidate list.



Contains no REACH Annex XIV substances.

#### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out

#### 16. OTHER INFORMATION

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
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.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains . May produce an allergic reaction.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.