

# SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)  
and Commission Regulation (EU) No 453/2010

## SOLEIL



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

#### 1.1. Product identifier

**SOLEIL**  
Bromuconazole 167 g/l / Tebuconazole 107 g/l, emulsifiable concentrate  
GIFAP Code : EC  
EC number: not applicable

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

Fungicide (agricultural use)  
Not for public use

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

INTERFARM (UK) LIMITED  
36 Newgate Street  
Doddington  
Cambridgeshire PE15 0SR  
United Kingdom  
Tel.: +44 (0)1354 741414  
email: [technical@interfarm.co.uk](mailto:technical@interfarm.co.uk)

#### 1.4. Emergency Telephone number 24/24hrs

UK & Ireland; +44 (0)844 560 5135

### 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Classified as hazardous according to regulation (EC) No 1272/2008 (CLP)

Signal word(s)

**Danger**

Pictogram (s)



**Serious eye dam. Cat 1**



**Asp. Haz. Cat 1  
STOT SE Cat 3  
Repro Cat 2**



**Aquatic Acute Cat 1  
Aquatic Chronic Cat 1**

Hazard statement(s)

H304: May be fatal if swallowed and enters airways.  
H318: Causes serious eye damage  
H336: May cause drowsiness or dizziness.  
H361d: Suspected of damaging the unborn child  
H400: Very toxic to aquatic life  
H410: Very toxic to aquatic life with long lasting effects.

Classified as hazardous according to:

- EU directive 67/548/EEC modified by Directive 2001/59/EC (results of the experimental studies),
- Directives 1999/45/EC, 2001/60/EC, 2006/8/EC (classification based on the concentration of active substance and ingredients),
- Directive 2003/82/EC for pesticides (special risks and safety precautions).



Symbol(s)

HARMFUL (Xn)



DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrase(s)

R38: Irritating to skin  
R41: Risk of serious damage to eyes  
R63: Possible risk of harm to the unborn child  
R65: Harmful may cause lung damage if swallowed

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R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### 2.2. Label elements

Signal word(s)

Danger

Pictogram (s)



Hazard statement(s)

H304: May be fatal if swallowed and enters airways.  
H318: Causes serious eye damage  
H336: May cause drowsiness or dizziness.  
H361d: Suspected of damaging the unborn child  
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261: Avoid breathing mist/vapours/spray.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
P331: Do NOT induce vomiting.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.  
P501 (UK): Dispose of contents/container to a licensed hazardous-waste contractor or collection site except for empty clean containers, which can be disposed of as non-hazardous waste.  
P501 (IE): Dispose of contents/container to a licensed waste disposal contractor or collection site except for triple rinsed empty containers, which can be disposed of as non-hazardous waste.  
EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

Special risks and safety precautions (directive 91/414/EEC):

General provisions

SP 1: Do not contaminate water with the product or its container (Do not clean application equipment near surface water).

Specific safety precautions

SPe 3: To protect aquatic organisms respect an unsprayed buffer zone of 5 metres (as indicated on the label) to surface water bodies.

2.3. Other hazards

None known

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. This product is to be considered as a mixture in conformance to EC directives.

### Composition/Information on hazardous ingredients

Number	% w/v	CAS number	Chemical name
1	16.7	116255-48-2	Bromuconazole: 1-[(2RS,4RS:2RS,4SR)-4-bromo-2-(2,4-dichlorophenyl) tetrahydrofurfuryl]-1H-1,2,4-triazole
2	10.7	107534-96-3	Tebuconazole: (RS)-1-p-chlorophenyl-4,4-dimethyl-3-(1H-1,2,4-triazol-1-ylmethyl)pentan-3-ol
3	>1	24938-91-8	Wetting agent
4	>1	100-51-6	Solvent
5	>1	70528-83-5	Emulsifying agent
6	>10	64742-94-5	Naphtha solvent

Number	EC number	Annex-1 listing	Regl 1272/2008 Pict.	Hazard statements	Symbol 2001/59/EC	R phrase(s)
1	408-060-3	yes	GHS07, GHS08, GHS09	H302, H361D, H400, H410	Xn, N	R22, R63, R50/53
2	403-640-2	yes	GHS07, GHS08, GHS09	H302, H361D, H411	Xn, N	R22, R63, R51/53
3	/	/	GHS05, GHS07	H302, H318	Xn	R41, R22
4	/	/	GHS07	H302, H319, H332	Xn	R20/22, R36
5	/	/	GHS05, GHS07, GHS09	H312, H315, H318, H411	Xn, N	R21, R38, R41, R51/53
6	265-198-5	649-424-00-3	GHS07, GHS08, GHS09	H304, H411, H336, EUH066	Xn, N	R65, R66, R67, R51/53

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Other information

SCAE code : SCAE 0108 V2

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#### 4. FIRST AID MEASURES

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##### 4.1. Description of first aid measures

<b>General</b>	In cases of doubt, seek medical attention.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, seek medical advice.
<b>Skin</b>	Remove contaminated clothing. Wash immediately with soap and water. Seek medical advice if irritation develops.
<b>Eye</b>	Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.
<b>Ingestion</b>	Rinse mouth. DO NOT induce vomiting. Seek medical advice.

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

Causes serious eye damage. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May be fatal if swallowed and enters airways.

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

No specific recommendations.

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#### 5. FIRE-FIGHTING MEASURES

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##### 5.1. Extinguishing media

<b>Suitable Extinguishing media</b>	Dry chemical powder, carbon dioxide, water, foam.
<b>Unsuitable extinguishing media</b>	None known.

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

May emit toxic and corrosive fumes under fire conditions (carbon monoxide (CO), nitrous gases (NO<sub>x</sub>), hydrogen bromide (HBr) and hydrogen chloride (HCl))

##### 5.3. Advice for fire-fighters

Wear self contained breathing apparatus. Wear suitable protective clothing and eye/face protection.

Other information

Water used to extinguish a fire should not be allowed to enter the drainage system or watercourses.

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#### 6. ACCIDENTAL RELEASE MEASURES

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

**For non-emergency personnel**

Avoid contact with skin and eyes.  
Wear protective gloves, safety goggles or face shield, and suitable protective clothing.  
Remove ignition sources.  
Evacuate the danger area.

**For emergency responders**

Avoid contact with skin and eyes.  
Wear protective gloves (nitrile), safety goggles or face shield, and suitable protective clothing.  
Remove ignition sources.  
Evacuate the danger area or consult an expert.

##### 6.2. Environmental precautions

Do not allow escape into sewage system or watercourses. Do not wash residues into drains or other waterways.

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

**Containment of a spill**

Do not allow escape into sewage system or watercourses.

**Clean-up procedures**

In case of spill (liquid), soak up immediately with suitable absorbent, such as sawdust or granular absorbent clay. Sweep up and place into sealable containers. Dig up heavily contaminated soil and place into drums. Use a damp cloth to clean floors and other objects, and also place in sealable container. Dispose of all waste and contaminated clothing in the same manner as waste chemicals (i.e. via an authorized disposal facility). Do not wash residues into drains or other waterways.

##### 6.4. Reference to other sections

For personal protection see section 8.

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### 7. HANDLING AND STORAGE

<b>7.1. Precautions for safe handling</b>	The usual precautions for handling chemicals should be observed. For personal protection see section 8.
<b>Fire and explosion prevention</b>	Prevent electrostatic discharges. Above the flash point an explosive mixture can be formed in presence of a flame.
<b>7.2. Conditions for safe storage, including any incompatibilities</b>	
<b>Storage requirements</b>	Store in a dry and cool place. Keep container in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Do not drink, eat and smoke in work areas.
<b>Other information</b>	Do not mix with water (except for the normal preparation).
<b>7.3. Specific end use(s)</b>	See label on the container.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>8.1. Control parameters</b>	There is no national exposure limit for this product. No chemical safety report is required for this kind of product.
<b>8.2. Exposure controls</b>	
<b>Appropriate Engineering controls</b>	Provide adequate ventilation.
<b>Individual protection measures</b>	
<b>Respiratory</b>	The usual precautions for handling chemicals should be observed. In case of insufficient ventilation wear suitable respiratory equipment.
<b>Hand</b>	Wear protective nitrile gloves.
<b>Eye</b>	Wear safety goggles or face shield.
<b>Skin and body</b>	Wear suitable protective clothing.
<b>Other information</b>	Launder clothes before reuse.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Name</b>	<b><i>Bromuconazole 167 g/l / Tebuconazole 107 g/l, emulsifiable concentrate</i></b>
<b>Appearance</b>	liquid (visual inspection)
<b>Colour</b>	transparent dull yellow (in-house method)
<b>Odour</b>	chemical odour (In-house method)
<b>Odour threshold</b>	not determined
<b>pH value</b>	9.2 (1% suspension in water) at 23°C (CIPAC MT 75.3)
<b>Melting point/freezing point</b>	not determined
<b>Initial boiling point &amp; boiling range</b>	not determined
<b>Flash point</b>	72°C (CIPAC MT 12.2)
<b>Evaporation rate</b>	not applicable
<b>Flammability</b>	not flammable, due to the high flash point
<b>Upper/lower flammability or explosive limits</b>	not determined
<b>Vapour pressure</b>	not determined
<b>Vapour density</b>	not determined
<b>Relative density</b>	1.05 g/ml (at 20°C) (EEC A.3)
<b>Bulk density</b>	not applicable
<b>Solubility in water</b>	dispersible in water (solubility of bromuconazole = isomer cis: 60.9 mg/l isomer trans: 20.8 mg/l at 20°C. (US EPA D 63-8 - EEC A.6 Elution column) solubility of tebuconazole: 36 mg/l at 20°C)
<b>Solubility in other solvents</b>	not applicable
<b>Partition coefficient n-octanol/water</b>	not determined (Bromuconazole: log Pow = 3.24 ; 20°C ; OECD 107; Tebuconazole: log Pow = 3.7 at 20°C)
<b>Autoignition temperature</b>	338°C (EEC A.15)
<b>Decomposition temperature</b>	bromuconazole shows an exothermic decomposition at 194°C (US EPA D 63-5)
<b>Dynamic Viscosity</b>	30.1 mPa.s at 20°C (OECD 114)
<b>Kinematic viscosity</b>	At 20°C = 25.1953 mm <sup>2</sup> /s At 40°C = 11.4289 mm <sup>2</sup> /s (OECD 114)
<b>Explosive properties</b>	no explosive properties (EEC A.14)
<b>Oxidising properties</b>	no oxidizing properties (Expert statement)

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### 9.2. Other information

Relative vapour density (air = 1)	not determined
Surface tension	At 25°C = 31.5 mN/m At 40°C = 30.2 mN/m (EEC A.5)

## 10. STABILITY AND REACTIVITY

10.1. Reactivity	Stable under recommended storage and handling conditions (see also section 7).
10.2. Chemical stability	Stable for a minimum of 2 years under recommended storage and handling conditions (see section 7).
10.3. Possibility of hazardous reactions	None known
10.4. Conditions to avoid	Avoid high temperature, light, humidity
10.5. Incompatible materials	None known.
10.6. Hazardous decomposition products	May emit toxic and corrosive fumes under fire conditions (carbon monoxide (CO), nitrous gases (NO <sub>x</sub> ), hydrogen bromide (HBr) and hydrogen chloride (HCl)). (See also section 5)

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Name	<b><i>Bromuconazole 167 g/l / Tebuconazole 107 g/l, emulsifiable concentrate</i></b>
Acute toxicity	
Oral	LD50 rat: > 2005 mg/kg (OECD 401)
Dermal	LD50 rat: > 2005 mg/kg (OECD 402)
Irritation	
Skin	moderately irritating (OECD 404)
Eye	severely irritating (OECD 405)
Sensitization	not sensitizing (Buehler test modified with 9 induction applications) (OECD 406)

The following data are applicable to ingredient(s) listed below:

Name	<b>Active substance <i>Bromuconazole, technical grade</i></b>
Acute toxicity	
Inhalation	LC50 rat (4 hours): > 5.05 mg/l (nose only) (OECD 403)
Other toxicological information	- Genotoxicity: <i>In vitro</i> tests: all tests negative, except chromosome aberration test weakly positive with metabolic activation (OECD 471, 473, 476, US EPA 40 CFR §798.5550) <i>In vivo</i> : negative (OECD 474, EEC B.18) - Carcinogenicity (rats, mice): no carcinogenic effect (US EPA guideline No. 83-5, 83-2) - Multigeneration reproduction study (rat): negative (OECD 416) - Teratogenicity studies (rat, rabbit): Oral route: negative in rabbits; in rats, some effects observed at maternally toxic levels (EEC B.31, US EPA 83-3) Dermal route: negative in rats (US EPA 83-3)
Name	<b>Active substance, <i>Tebuconazole, technical grade</i></b>
Acute toxicity	
Inhalation	LC50 rat (4 hours): > 5.1 mg/l (respirable dust)
Other toxicological information	- Genotoxicity: <i>In vitro</i> & <i>In vivo</i> : negative - Carcinogenicity (rats, mice): no carcinogenic effect. - Multigeneration reproduction study (rat): negative. - Teratogenicity studies: teratogenic, possible risk of harm to the unborn child.

Based on the available data, classification criteria are met for the irritation class (eye) and the teratogenic effects.

### Information on likely routes of exposure

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This product is for agricultural use, therefore the most probable routes of exposure are via skin or inhalation.

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

<b>Name</b>	<b>Bromuconazole 167 g/l / Tebuconazole 107 g/l, emulsifiable concentrate</b>
<b>Fish</b>	Acute toxicity, 96h-LC50 ( <i>Oncorhynchus mykiss</i> ): 10.44 mg/l (OECD 203)
<b>Daphnia</b>	Acute toxicity, 48h-EC50 ( <i>Daphnia magna</i> ): 21.9 mg/l (OECD 202) Chronic toxicity, 21d-NOEC ( <i>Daphnia magna</i> ): 1.95 mg/l (OECD 211)
<b>Algae</b>	Acute toxicity, EC50 ( <i>Scenedesmus subspicatus</i> ): 72h-ECr50: 0.350 mg/l 72h-ECb50: 0.096 mg/l 72h-NOEC = 0.005 mg/l (OECD 201)
<b>Bees</b>	Acute contact toxicity, 48h-LD50 ( <i>Apis mellifera</i> ): >100 µg/bee (OECD 214) Acute oral toxicity, 48h-LD50 ( <i>Apis mellifera</i> ): >80 µg/bee (OECD 213)
<b>Earthworms</b>	Acute oral toxicity, 14d-LC50 ( <i>Eisenia foetida</i> ): >988 mg/kg soil (OECD 207)

The following data are applicable to ingredient(s) listed below:

<b>Name</b>	<b>Active substance Bromuconazole, technical grade</b>
<b>Sediment dwelling midge</b>	Chronic toxicity, 28d-NOEC ( <i>Chironomus riparius</i> ): 0.25 mg/l (BBA 1995)
<b>Aquatic plant</b>	Acute toxicity, 14d-EC50 ( <i>Lemna gibba</i> ): 0.12 mg/l (US EPA FIFRA 122-2 & 123-2)
<b>Birds</b>	Acute toxicity, LD50 (Mallard duck): > 2150 mg/kg bw (US EPA FIFRA 71-1) Acute toxicity, LD50 (Bobwhite quail): >2150 mg/kg bw (US EPA FIFRA 71-1)
<b>Soil micro organisms</b>	No significant impact on carbon mineralization or nitrogen transformation at up to 0.667 mg a.s./kg dry soil (EPPO 1994).

<b>Name</b>	<b>Active substance, Tebuconazole, technical grade:</b>
<b>Sediment dwelling midge</b>	Chronic toxicity, 28d-NOEC ( <i>Chironomus riparius</i> ): EC10: 2.45 mg/l
<b>Aquatic plant</b>	Acute toxicity, 14d-EC50 ( <i>Lemna gibba</i> ): 0.144 mg/l
<b>Birds</b>	Acute toxicity, LD50 (Japanese quail): > 2912 mg/kg b.w. Acute toxicity, LD50 (Bobwhite quail): 1988 mg/kg b.w.

### 12.2. Persistence and degradability

The following data are applicable to ingredient(s) listed below:

<b>Name</b>	<b>Active substance Bromuconazole, technical grade</b>
<b>Degradation Biotic</b>	Not readily biodegradable (OECD 301B - modified Sturm test)
<b>Degradation Abiotic</b>	Hydrolytically stable: (pH 4, 5, 7, 9) (EPA FIFRA § 161-1)
<b>Biological methods for sewage treatment</b>	3h-EC50 activated sludge: > 1000 mg/L (OECD 209)

<b>Name</b>	<b>Active substance, Tebuconazole, technical grade:</b>
<b>Degradation Biotic</b>	Not readily biodegradable
<b>Degradation Abiotic</b>	Hydrolytically stable (pH 4, 7, 9 at 22°C)

### 12.3. Bioaccumulative potential

The following data are applicable to ingredient(s) listed below:

<b>Name</b>	<b>Active substance Bromuconazole, technical grade</b>
<b>Bioaccumulation</b>	Partition coefficient n-octanol/water log Pow : 3.24 (20°C) (OECD 107) Bio Concentration Factor (BCF), exposure 28 days (Bluegill sunfish): 131 (whole fish) – 227 (viscera); depuration time CT <sub>50</sub> : approx 0.4 day (U.S. E.P.A. FIFRA 165-4).

<b>Name</b>	<b>Active substance, Tebuconazole, technical grade:</b>
<b>Bioaccumulation</b>	Partition coefficient n-octanol/water log Pow = 3.7 at 20°C

### 12.4. Mobility in soil

The following data are applicable to ingredient(s) listed below:

<b>Name</b>	<b>Active substance Bromuconazole, technical grade</b>
	Adsorption Koc isomer LS850646: 474-1086 mL/g (mean 757 mL/g, 1/n = 0.78-0.85, 4 soils) Koc isomer LS850647: 627-1539 mL/g (mean 987 mL/g, 1/n = 0.76-0.86, 4 soils) Desorption: the sorption process was not entirely reversible. Therefore the substance has a low mobility (US EPA 163.1).

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**Name** **Active substance, Tebuconazole, technical grade:**  
Kfoc: 128.4 to 1249 mL/g (mean 769 mL/g (1/n = 0.71 – 1.2))  
Therefore the substance has a low mobility.

### 12.5. Results of PBT and vPvB assessment

Not required (no chemical safety report required).

### 12.6. Other adverse effects

No other known adverse effects on the environment.

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## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Substance and/or Mixture** According to local regulations. For further advice contact manufacturer.  
**Contaminated packaging** According to local regulations.

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## 14. TRANSPORT INFORMATION

Land transport ADR/RID, Sea transport IMO/IMDG, Air transport ICAO-TI/IATA-DGR:

**14.1. UN Number** 3082

**14.2. UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Bromuconazole and Tebuconazole)

**14.3. Transport hazard class(es)**

Land transport ADR/RID class:	9	label:	9
IMO/IMDG code class:	9		
Air transport ICAO-TI/IATA-DGR class:	9		

**14.4. Packing group** III

**14.5. Environmental hazards** Marine pollutant: yes

**14.6. Special precautions for user** EMS: F-A, S-F  
No other special precaution required.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the ICB Code**  
Not applicable

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## 15. REGULATORY INFORMATION

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

There is no specific regulation/legislation for this mixture.

### 15.2. Chemical safety assessment

No chemical safety assessment is required for this mixture.

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## 16. OTHER INFORMATION

**Method for evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 used for the purpose of classification:**

Classification based on tests and on the properties of the active substances and ingredients.

**Changes made to the previous version:** No previous version. [Based on SOLECCLP/EU/301gb from SCAE]

### Full text of risk phrase(s) used in this document:

R20/22: Harmful by inhalation and if swallowed  
R21: Harmful in contact with skin.  
R22: Harmful if swallowed  
R36: Irritating to eyes.  
R38: Irritating to skin.

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R41: Risk of serious damage to eyes.  
R63: Possible risk of harm to the unborn child  
R65: Harmful: may cause lung damage if swallowed  
R66: Repeated exposure may cause skin dryness or cracking  
R67: Vapours may cause drowsiness and dizziness  
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R50/53: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

### Full text of hazard statement(s) used in this document:

H312: Harmful in contact with skin.  
H315: Causes skin irritation  
H318: Causes serious eye damage  
H304: May be fatal if swallowed and enters airways  
H302: Harmful if swallowed  
H319: Causes serious eye irritation  
H332: Harmful if inhaled  
H336: May cause drowsiness or dizziness  
EUH066: Repeated exposure may cause skin dryness or cracking  
H361d: Suspected of damaging the unborn child.  
H400: Very toxic to aquatic life  
H410: Very toxic to aquatic life with long lasting effects  
H411: toxic to aquatic life with long lasting effects

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.