

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1. Product identifier**

Product form : Mixture  
 Product name : TRIO 100  
 Product code : 201  
 Type of product : Biocidal products (e.g. Disinfectants, pest control)  
 Product group : Mixture

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

Industrial/Professional use spec : Industrial  
 For professional use only  
 Use of the substance/mixture : Disinfectant  
 Sanitizing Agents

**1.2.2. Uses advised against**

No additional information available

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

Clover Chemicals Ltd  
 Clover House  
 Macclesfield Road  
 SK23 7DQ Whaley Bridge - United Kingdom  
 T 01663 733114 - F 01663 733115  
[info@cloverchemicals.com](mailto:info@cloverchemicals.com) - [www.cloverchemicals.com](http://www.cloverchemicals.com)

**1.4. Emergency telephone number**

Country	Official advisory body	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

**SECTION 2: Hazards identification**
**2.1. Classification of the substance or mixture**
**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin Corr. 1B H314  
 Aquatic Acute 1 H400  
 Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements**
**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS05

GHS09

CLP Signal word :

Danger

Hazardous ingredients :

Fatty alcohol ethoxylate; Isotridecanol, ethoxylated; Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides; Didecyltrimethylammonium Chloride

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.  
 H410 - Very toxic to aquatic life with long lasting effects.

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Precautionary statements (CLP)

: P102 - Keep out of reach of children.  
P264 - Wash hands thoroughly after handling.  
P280 - Wear protective gloves, eye protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P273 - Avoid release to the environment.

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 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]
Isotridecanol, ethoxylated	(CAS-no) 69011-36-5 (Einecs nr) 931-138-8 (EG annex nr) / (REACH-no) Exempted	1 – 3	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides	(CAS-no) 68424-85-1 (Einecs nr) 270-325-2	2.964	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Didecyl dimethyl ammonium Chloride	(CAS-no) 7173-51-5 (Einecs nr) 230-525-2 (EG annex nr) 612-131-00-6	2.964	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411
Fatty alcohol ethoxylate	(CAS-no) 160875-66-1 (Einecs nr) 605-233-7 (EG annex nr) /	1 – 3	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Ethoxylated Alcohol	(CAS-no) 157627-86-6/160901-19-9/68551-12-2/68439-50-9 (Einecs nr) 500-337-8/500-457-0/500-221-7/500-213-3 (EG annex nr) / (REACH-no) Exempted	0.1 – 1	Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

#### Inhalation

: Remove person to fresh air and keep comfortable for breathing.

#### Skin contact

: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.

#### Eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

#### Ingestion

: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

#### Symptoms/effects

: Causes severe skin burns and eye damage.

#### Acute effects skin

: Causes severe burns.

#### Acute effects eyes

: Causes serious eye damage. stinging, redness, itching, tears.

#### Acute effects oral route

: Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

No additional information available

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water.

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

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

#### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe mist.

Hygiene measures : Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse.

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

Technical measures : Comply with applicable regulations.

Storage conditions : Keep container tightly closed.

Packaging materials : polyethylene.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

##### Personal protective equipment:

Avoid all unnecessary exposure.

<b>Hand protection:</b>
Wear protective gloves.

<b>Eye protection:</b>
Chemical goggles or face shield

<b>Protective equipment:</b>
Wear suitable protective clothing

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Personal protective equipment symbol(s):



### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Physical state/form	: Liquid.
Colour	: Yellow.
Odour	: odourless.
Odour threshold	: No data available
pH	: 11 – 11.5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point/range	: 0 °C
Freezing point	: No data available
Boiling point/Boiling range	: 100 °C
Flash point	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.012
Solubility	: Soluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

VOC content	: 0 g/l
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 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

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Fatty alcohol ethoxylate (160875-66-1)

LD50 oral rat	> 300 (300 – 2000) mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE CLP (oral)	300 mg/kg bodyweight

### Isotridecanol, ethoxylated (69011-36-5)

LD50 oral rat	> 300 ( $\leq$ 2000) mg/kg
LD50 dermal rabbit	> 2000 mg/kg
ATE CLP (oral)	500 mg/kg

### Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides (68424-85-1)

LD50 oral rat	795 mg/kg
ATE CLP (oral)	795 mg/kg bodyweight

### Didecyldimethylammonium Chloride (7173-51-5)

ATE CLP (oral)	500 mg/kg bodyweight
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Skin corrosion/irritation	: Causes severe skin burns. pH: 11 – 11.5
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 11 – 11.5
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

### Isotridecanol, ethoxylated (69011-36-5)

NOAEL (oral, rat)	> 250 mg/kg bodyweight
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STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water	: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Ethoxylated Alcohol (157627-86-6/160901-19-9/68551-12-2/68439-50-9)

LC50 fish 1	0.1 – 1 mg/l (Danio rerio - OESO 203 - ECHA)
EC50 Daphnia 1	0.1 – 1 mg/l (Daphnia magna - ECHA)
ErC50 (algae)	0.1 – 1 mg/l
NOEC chronic fish	> 0.1 mg/l
NOEC chronic algae	0.14 mg/l (CESIO)

### Fatty alcohol ethoxylate (160875-66-1)

EC50 Daphnia 1	> 10 mg/l
ErC50 (algae)	> 10 mg/l
NOEC chronic fish	> 1 mg/l

### Isotridecanol, ethoxylated (69011-36-5)

LC50 fish 1	> 1 mg/l
EC50 Daphnia 1	> 1 mg/l
ErC50 (algae)	1 – 10 mg/l

### Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides (68424-85-1)

LC50 fish 1	0.85 mg/l
EC50 Daphnia 1	0.016 mg/l
EC50 72h algae (1)	0.02 mg/l
NOEC chronic crustacea	0.025 mg/l

### Didecyldimethylammonium Chloride (7173-51-5)

EC50 Daphnia 1	0.03 mg/l
EC50 96h algae (1)	0.06 mg/l

## 12.2. Persistence and degradability

### TRIO 100

Persistence and degradability	Biodegradable. The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
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### Ethoxylated Alcohol (157627-86-6/160901-19-9/68551-12-2/68439-50-9)

Persistence and degradability	Readily biodegradable.
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### Fatty alcohol ethoxylate (160875-66-1)

Persistence and degradability	Biodegradable.
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### Isotridecanol, ethoxylated (69011-36-5)

Persistence and degradability	Readily biodegradable, according to appropriate OECD test. Not established.
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### Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides (68424-85-1)

Persistence and degradability	Biodegradable.
Biodegradation	> 90 %

## 12.3. Bioaccumulative potential

### TRIO 100

Bioaccumulative potential	No bioaccumulation.
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# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### Ethoxylated Alcohol (157627-86-6/160901-19-9/68551-12-2/68439-50-9)

Bioaccumulative potential	No bioaccumulation.
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### Fatty alcohol ethoxylate (160875-66-1)

Bioaccumulative potential	No bioaccumulation.
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### Isotridecanol, ethoxylated (69011-36-5)

Bioaccumulative potential	No bioaccumulation. Not established.
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### Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides (68424-85-1)

Partition coefficient n-octanol/water (Log Kow)	2.88
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Bioaccumulative potential	No bioaccumulation.
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

##### TRIO 100

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

#### Component

Isotridecanol, ethoxylated (69011-36-5)	PBT: not relevant – no registration required vPvB: not relevant – no registration required
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Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides (68424-85-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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#### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Waste / unused products : Avoid release to the environment.

### SECTION 14: Transport information

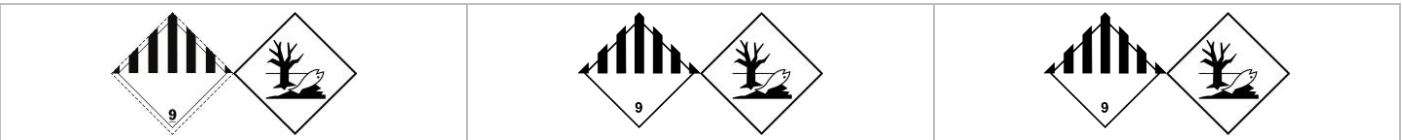
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA
<b>14.1. UN number</b>		
UN 3082	UN 3082	UN 3082
<b>14.2. UN proper shipping name</b>		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Environmentally hazardous substance, liquid, n.o.s.
<b>Transport document description</b>		
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides ; Didecyldimethylammonium Chloride), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides ; Didecyldimethylammonium Chloride), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Quaternary ammonium compounds, benzyl (C12 - C16) alkyl dimethyl, chlorides ; Didecyldimethylammonium Chloride), 9, III
<b>14.3. Transport hazard class(es)</b>		
9	9	9

# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830



### 14.4. Packing group

III	III	III
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### 14.5. Environmental hazards

Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
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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)	: 5I
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, 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 plates	:



Tunnel code	: -
EAC code	: •3Z

#### Transport by sea

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Packing instructions (IMDG)	: LP01, P001
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03

#### Air transport

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

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

Not applicable

## SECTION 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



# TRIO 100

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Contains no REACH Annex XIV substances

Substances subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals: Didecyldimethylammonium chloride (7173-51-5)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 0 g/l

### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

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
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
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.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Corr. 1B	H314	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 2	H411	Calculation method

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.