

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

**1.1. Product identifier**

Product form : Mixture  
 Product name : ZAKOL  
 Product code : 501  
 Type of product : Detergent,Acids  
 Product group : Mixture

**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  
 Industrial/Professional use spec : Industrial  
 For professional use only  
 Use of the substance/mixture : Cleaner  
 Descaler

**1.2.2. Uses advised against**

No additional information available

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

**Manufacturer**

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

**Supplier**

Christeyns NV  
 Afrikalaan 182  
 9000 GENT  
 Belgium  
 T +32 (0)9/ 223 38 71 - F +32 (0)9/ 233 03 44  
[info@christeyns.be](mailto:info@christeyns.be) - [www.christeyns.com](http://www.christeyns.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	Only for healthcare professionals

**SECTION 2: Hazards identification**

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

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

Skin Corr. 1 H314  
 Aquatic Chronic 3 H412  
 Full text of hazard classes, H- and EUH-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

CLP Signal word : Danger  
 Contains : Bis (2-hydroxyethyl) oleyl amine, Hydrogen chloride  
 Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.  
 H412 - Harmful to aquatic life with long lasting effects.  
 Precautionary statements (CLP) : P102 - Keep out of reach of children.  
 P260 - Do not breathe fume.  
 P280 - Wear protective gloves, eye protection.

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P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P315 - Get immediate medical advice/attention.  
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.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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.  
P362 - Take off contaminated clothing.

### 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

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	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
Cetyl trimethyl ammonium chloride (112-02-7)	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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

## 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]
Hydrogen chloride substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit	Einecs nr: 231-595-7 EG annex nr: 017-002-01-X REACH-no: 01-2119484862-27	5 – 10	Met. Corr. 1, H290 Skin Corr. 1B, H314 STOT SE 3, H335
Bis (2-hydroxyethyl) oleyl amine	CAS-no: 25307-17-9 Einecs nr: 246-807-3 REACH-no: 01-2119510876-35	1 – 3	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Cetyl trimethyl ammonium chloride	CAS-no: 112-02-7 Einecs nr: 203-928-6 REACH-no: 01-2119970558-23	0.1 – 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Hydrogen chloride	Einecs nr: 231-595-7 EG annex nr: 017-002-01-X REACH-no: 01-2119484862-27	( 10 $\leq$ C < 100) STOT SE 3, H335 ( 10 $\leq$ C < 25) Eye Irrit. 2, H319 ( 10 $\leq$ C < 25) Skin Irrit. 2, H315 ( 25 $\leq$ C < 100) Skin Corr. 1B, H314

Full text of H- and EUH-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

: Allow affected person to breathe fresh air. Allow the victim to rest.

Skin contact

: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

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Eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

Ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Acute effects inhalation : Inhalation may cause irritation, cough, shortness of breath.

Acute effects skin : Causes severe burns. Red skin.

Acute effects eyes : Causes serious eye damage.

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

## 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. Hydrogen chloride. Phosgene.

### 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. Use a self-contained breathing apparatus and also a protective suit.

## 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 Section 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.

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

Storage conditions : Store in a cool, well-ventilated place. Keep container tightly closed.

Incompatible products : Strong bases.

Packaging materials : polyethylene.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Hydrogen chloride	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hydrogen chloride
IOEL TWA	8 mg/m <sup>3</sup>
IOEL TWA [ppm]	5 ppm
IOEL STEL	15 mg/m <sup>3</sup>

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Hydrogen chloride	
IOEL STEL [ppm]	10 ppm
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Hydrogen chloride
OEL TWA [1]	8 mg/m <sup>3</sup>
OEL TWA [2]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Hydrogen chloride
WEL TWA (OEL TWA) [1]	2 mg/m <sup>3</sup> gas and aerosol mists
WEL TWA (OEL TWA) [2]	1 ppm gas and aerosol mists
WEL STEL (OEL STEL)	8 mg/m <sup>3</sup> gas and aerosol mists
WEL STEL (OEL STEL) [ppm]	5 ppm gas and aerosol mists

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure that there is a suitable ventilation system.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Chemical goggles or safety glasses

#### 8.2.2.2. Skin protection

##### Protective equipment:

Acid-resistant clothing

##### Hand protection:

Wear protective gloves.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

#### 8.2.2.4. Thermal hazards

No additional information available

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### 8.2.3. Environmental exposure controls

#### 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
Colour	: Blue.
Physical state/form	: Liquid.
Odour	: Pine. Floral.
Odour threshold	: Not available
Melting point/range	: 0 °C
Freezing point	: Not available
Boiling point/Boiling range	: 100 °C
Flammability	: Non flammable.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Autoignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 0 – 1
Viscosity, kinematic	: Not available
Viscosity, dynamic	: 300 cP at 20 °C
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: 1.04
Relative vapour density at 20 °C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

VOC content : 0 g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 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

Strong bases.

### 10.6. Hazardous decomposition products

fume. Hydrogen chloride. Phosgene.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

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<b>Bis (2-hydroxyethyl) oleyl amine (25307-17-9)</b>	
LD50 oral rat	300 – 2000 ml/kg
<b>Cetyl trimethyl ammonium chloride (112-02-7)</b>	
LD50 oral rat	699 mg/kg
Skin corrosion/irritation	: Causes severe skin burns. pH: 0 – 1
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 0 – 1
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
<b>Hydrogen chloride</b>	
STOT-single exposure	May cause respiratory irritation.
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
<b>11.2. Information on other hazards</b>	
<b>11.2.1. Endocrine disrupting properties</b>	
No additional information available	
<b>11.2.2. Other information</b>	
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
<b>SECTION 12: Ecological information</b>	
<b>12.1. Toxicity</b>	
Ecology - water	: Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.
Not rapidly degradable	
<b>Bis (2-hydroxyethyl) oleyl amine (25307-17-9)</b>	
LC50 - Fish [1]	0.1 – 1 mg/l
EC50 - Crustacea [1]	0.01 – 0.1 mg/l
EC50 72h - Algae [1]	0.01 – 0.1 mg/l
<b>Cetyl trimethyl ammonium chloride (112-02-7)</b>	
LC50 - Fish [1]	0.19 – 0.29 mg/l
EC50 - Crustacea [1]	0.28 mg/l
ErC50 algae	0.08 mg/l
NOEC chronic algae	0.04 mg/l
<b>12.2. Persistence and degradability</b>	
<b>ZAKOL</b>	
Persistence and degradability	Biodegradable.

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<b>Bis (2-hydroxyethyl) oleyl amine (25307-17-9)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

<b>Cetyl trimethyl ammonium chloride (112-02-7)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative potential

<b>ZAKOL</b>	
Bioaccumulative potential	No bioaccumulation.

<b>Bis (2-hydroxyethyl) oleyl amine (25307-17-9)</b>	
Log Pow	3.4
Bioaccumulative potential	Bioaccumulation unlikely. Not established.

<b>Cetyl trimethyl ammonium chloride (112-02-7)</b>	
Bioconcentration factor (BCF REACH)	79
Log Pow	3.08
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

<b>ZAKOL</b>	
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	

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. 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 / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number or ID number</b>		
UN 3264	UN 3264	UN 3264
<b>14.2. UN proper shipping name</b>		
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Transport document description</b>		
UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric Acid 8%), 8, II, (E)	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric Acid 8%), 8, II	UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid 8%), 8, II
<b>14.3. Transport hazard class(es)</b>		
8	8	8
		

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ADR	IMDG	IATA
<b>14.4. Packing group</b>		
II	II	II
<b>14.5. Environmental hazards</b>		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: C1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1I
Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T11
Portable tank and bulk container special provisions (ADR)	: TP2, TP27
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Hazard identification number (Kemler No.)	: 80
Orange plates	: 
Tunnel code	: E
EAC code	: 2X
APP code	: B

#### Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02

#### Air transport

PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
Special provisions (IATA)	: A3, A803

### 14.7. Maritime transport in bulk according to IMO instruments

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

Contains no REACH Annex XIV substances

Contains no substance 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.



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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

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

VOC content : 0 g/l

### Allergenic fragrances > 0,01%:

D-LIMONENE

### Detergent Regulation (648/2004/EC): Labelling of contents:

Component	%
cationic surfactants	<5%

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

### 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 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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.
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

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### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Corr. 1	H314	On basis of test data
Aquatic Chronic 3	H412	Calculation method

Safety Data Sheet (SDS), EU

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.