

**A Safety Data Sheet**

According to REGULATION 1907/2006/EC  
Version 1 Date of issue 10 / 02 / 2017

**Section 1: Identification of the product and company**

**1.1 Product identifier**

Trade name: **ZEO EX CAL**

**1.2 Use of the substance / mixture**

Liquid Descaling

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

ZEO TEC HELLAS GROUP IKE  
SPARTIA AREA, SESKLO VOLOS  
Tel. 2421095212  
FAX: 2421095212  
Postcode: 38500  
E-MAIL : zthellasgroup@gmail.com

**1.4 Emergency telephone number**

Emergency telephone number: 210 -7793777

**Section 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

Skin irritation(Categorie 1A),H314

For the full text of H-phrases referring to this section,see Section 16.

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

**Pictogram**



**Signal word:**Hazard

#### **Hazard statements(recognized) H**

H314: Causes serious skin burns and eye damages.

#### **Precautionary Statement(s)**

P102: Away from children.

P405:Keep locked.

P280:Wear protective gloves,protective clothes,means of personal protection for the eyes/face.

P301 + P330 + P331: IF SWALLOWED: Rinse your mouth.DON'T cause vomiting.

P303 + P361 + P353: IN CASE OF SKIN CONTACT(or with hair): Remove immediately all your infected clothing.Rinse your skin with water/in the shower.

P305 + P351 + P338: IN CASE OF EYE CONTACT: Rinse thoroughly with water for several minutes. If there are contact lenses, remove them, if it is possible. Keep rinsing.

P309 + P311: IF EXPOSED OR NOT FEELING WELL: Call POISON CENTER or a doctor.

### **2.3 Additional Hazard Statements**

#### **Other hazards**

No other known hazards.

## **Section 3: Composition/information on ingredients**

### **3.1 Mixtures**

#### **Hazardous ingredients according to the regulation CLP (EC) No 1272/2008**

CAS No/EC	Ingredient	Number REACH	Classification according to 1272/2008/EC	Concentration
77-92-9	Citric acid	01-2119457026-42	Eye Irrit. 2 H319	0% - 5%
79-14-1	Glycolic acid	01-2119485579-17	Acute Tox. 4; H332 Skin Corr. 1B; H314	0% - 5%
	Alkylether carboxylic acid	01-0000019096-68	Skin Irrit 2, H315 Eye Dam. 1, H318	0% - 5%

For full description of the H phrases that are shown only with the codes see Section 16 "Other information"

## **Section 4: First aid measures**

### **4.1 Description of first aid measures**

#### **General Suggestions**

Consult a doctor.Show the treating doctor this safety sheet.

#### **If inhaled:**

Remove from exposure to clean air.In case of respiratory arrest apply artificial respiration.Consult a doctor.

#### **In case of skin contact:**

Wash with soap and water. Consult a doctor.

#### **In case of eye contact:**

Rinse with plenty of water for several minutes.Consult a doctor.

**If swallowed:** Never withhold something to an unconscious person from mouth. Clean mouth with water. Consult a doctor.

#### **4.2 Main symptoms and effects, acute and subsequent**

The most important from the known symptoms and effects are described in the labelling (see section 2.2) and/or section 11

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

Poison center 210-7793777

### **Section 5: Firefighting Measures**

#### **5.1 Firefighting equipment**

##### **Appropriate firefighting equipment.**

Use water spray, mousse stable in alcohol, dry extinguishin mean or carbon dioxide.

#### **5.2 Specific hazards arising from the substance or mixture**

No hazards exist

#### **5.3 Recommendations for firefighters**

Wear self-contained breathing apparatus, when it is necessary.

#### **5.4 More information**

There is no data

### **Section 6: Accidental release measures**

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

Use personal protective clothing. Do not breath steam/gas/air. Take measures for adequate ventilation. For personal clothing see section 8.

#### **6.2 Environmental precautions:**

It is forbidden to flush into sanitary sewer system.

#### **6.3 Methods and materials for restriction and cleaning:**

Assemble and avail without creating dust. Wipe and place into suitable containers for processing.

Delivered to disposal in suitable, closed containers.

#### **6.4 Reference to other sections**

Information for disposal, see section 13

### **Section 7: Handling and storage**

#### **7.1 Precautions for safe handling**

Avoid eye and skin contact. Avoid cloud forming. Take measures of proper ventilation. For precautions see 2.2.

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

Stored at cool places. The container is stored in hermetically sealed in a dry place with good ventilation.

#### **7.3 Specific end use(s):**

Some of the uses are referred in section 1.2, no other specific uses have been specified.

## Section 8: Exposure controls/personal protection

### 8.1 Control Parameters

**Components with workplace control parameters:**

#### CITRIC ACID

It does not contain significant quantities of substances relating to the work and the limits of them that have to be checked.

PNECs

Aquatic PNECaqua - fresh water (mg/l): 0,44

PNECaqua - seawater (mg/l): 0,044

PNECfreshwater -precipitate (mg/kg u.vv) :3,46 (Equal to 0,752 mg/kg WWT)

PNECmarine -precipitate (mg/kg u.vv) : 34,6 (Equal to 7,52 mg/kg WWT)

Facility of processing factory waste PNEC STP (mg/l): >1000

Earthly PNEC soil (mg/kg u.vv.): 33,1

#### GLYCOLIC ACID

No effects level (DNEL)

Type	Exposure	Rate	Population	Consequenses
DNEL			Workers	Regular
DNEL	Long-lasting Dermal	57,69 mg/kg bw/day 9,2 mg/m3	Workers	Regular
DNEL	Long-lasting Inhalation		Consumers	Regular
DNEL	Long-lasting Dermal	28,85 mg/kg bw/day 2,3 mg/m3	Consumers	Regular
DNEL	Long-lasting Inhalation Long-lasting Oral	0,75 mg/kg bw/day	Consumers	Regular

Predicted non-effect concentration (PNEC)

Fresh water : 0,0312mg/l

Seawater : 0,0031 mg/l

Uninterrupted use/release : 0,312 mg/l

Fresh water precipitate : 0,115 mg/kg

Seawater precipitate : 0,0115 mg/kg

Soil : 0,007 mg/kg

Factory waste processing facility : 7 mg/l

Oral (food chain) : 16,66 mg/kg

## 8.2 Exposure controls.

### Proper mechanical controls

The recommended security measures when using chemical compounds must be taken into account.. Wash your hands before the breaks and by the end of the work.

### Personal protective equipment:

#### Eye/Face protection:

Safety goggles with side protection according to EN 166.For eye protection use equipment tested and approved according to the proper government standards,such us NIOSH (USA) or EN 166 (EU).

#### Skin protection:

Wear gloves..Gloves must be tested before use.To remove gloves use a proper technique (without touching the outer surface of the glove) in order to avoid skin contact with this product.Reject gloves that have been contaminated after use,according to the current legislation and the correct laboratory technique.Wash and dry hands.The protective gloves that will be used must respond to the requirements of the EE 89/689/EOK guidance and the standard EN 374 which emerges from her.

Total contact.

Material: rubber nitril.

Minimum layer thickness:

Breakthrough time 480 minutes.

Contact with droplets.

Material: rubber nitril.

Minimum layer thickness:

Breakthrough time 480 minutes

Control method: EN 374

In case of use in a solution or mixture with other substances and in conditions that diverge from those in the EN 374, you must contact the manufacturer of the gloves which are approved by the EK.This recommendation is only advisory and must be evaluated from the security manager who must be familiar with the specific situation that concerns the expected use.There must not be interpreted as approval is given in every case of use.

#### Body protection:

Impervious protective clothing. The kind of the protective equipment must be chosen according to the concentration and quantity of the dangerous substance in the working area.

#### Respiratory protection:

For the disturbances due to exposure use particulate respirator type P95 (USA) or type P1 (EE EN 143). For higher protection level use respirator rounds type OV/AG/P99 (USA) or type ABEK-P2 (EE EN 143). Use respirators and components tested and approved by government standards such as NIOSH (US) or CEN (EU).

#### Environmental exposure control:

It is forbidden to flush into sewer system.

**Section 9: Physical and chemical properties**

<b><u>General Information</u></b>	
Appearance: form:	Liquid
Odour:	Characteristic
Odour threshold:	-
PH	2± 0.5
Melting point/Freezing point	No data
Initial boiling point/boiling area	No data
Flashpoint :	Unusable
Evaporation speed	Unusable .
Flammability (solid,liquid)	Unusable
Lower/Upper Explosion limits.	Unusable
Steam pressure	No data exist
Steam Density	No data exist
Relative density	No data exist
Solubility in water	Full
Distribution factor (n-octanol/H <sub>2</sub> O)	No data exist
Flammability temperature.	Unusable
Decomposition temperature	No data exist
Viscosity	No data exist
Explosion qualities	Unavailable
Oxidation qualities	Unavailable

**10. Stability and reactivity**
**10.1 Reactivity**

There is no data.

**10.2 Chemical stability**

Hydroscofique

Stable if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

There is no data.

**10.4 Conditions to avoid**

Humidity exposure

#### 10.5 Incompatible materials:

Strong acids

#### 10.6 Hazardous decomposition products

More decomposition products-There is no data. In case of fire see Section 5.

### Section 11: Toxicological information

#### 11.1 Information on toxicological effects

##### CITRIC ACID

###### **Risk of acute toxicity**

Important ranking values-LD-LC50

Oral : LD50 5400mg/kg (mouse)

Dermal : LD50>2000mg/kg bw (-)

First irritating energy

Skin : mild irritation

Eye : irritating

Further toxicological indication:

The product displays according to the Overall Ranking Lines Calculation of the EK for confections, according to the last current version, the following risks:

Irritation

##### GLYCOLIC ACID

###### **Direct toxicity**

**Oral LD-50 / rat : 2040 mg/kg**

Method : US EPA TG OPP 81-1

###### **Dermal**

Estimation for direct toxicity / human : > 5000mg/kg

Method : Expert decision

###### **Inhalation**

Estimation for direct toxicity : 4,85 mg/l

###### **Skin Irritation**

Rabbit

Classification: corruptive result : Causes burns

Method : OECD Based on test 405

###### **Eye irritation :**

Rabbit

Classification : causes serious burns

Result : corruptive

Method : OECD based on test 405

###### **Sensitation**

Hydrochoerus

Classification : Non-sensitating

Result : Non-sensitating

Method : OECD based on test 406

###### **Repeted dose toxicity**

Oral : rat NOAEL: 150mg/kg

Method : OECD based on test 408

Changes on the weight of organs, consequenses in kidneys

###### **Mutagenicity evaluation**

Animal tests haven't shown any mutagen activity. Bacteria tests and mammal cell cultivation haven't shown any mutation effect.

###### **Carcinogenesis evaluation**

Non-carcinogenic for human. Animal tests haven't shown any carcinogenic activity.

#### Reproduction toxicity evaluation

There is no reproduction toxicity. Animal tests haven't shown any reproduction toxicity.  
 nction of information.

#### Teratogenesis evaluation

Data suggest that the substance is not developing toxin for animals.

### AKYLETHER CARBOXYLIC ACID

#### Acute toxicity

Product/Ingredients name	Resut	Category	Doses
Alkyl ether carboxylic acid	LD50 Oral	Rat	>2000 mg/kg

#### Sensitiser

Product/Ingredients name	Route of exposure	Categorie	Result
Alkyl ether carboxylic acid	Skin	Rat	Non sensitizer

#### Mutation

Product/Ingredients name	Test	Experiment	Result
Alkyl ether carboxylic acid	-	Experiment: In vitro Object: Bacteria	Negative

#### Carcinogenesis

Conclusion/Summary : No data available

#### Reproduction toxicity

Conclusion/Summary : No data available

#### Teratogenesis dynamics

Conclusion/Summary: No data available

### Section 12: Ecological information

#### CITRIC ACID

##### 12.1 Toxicity

##### Aqueous toxicity

LC50/24h 1535 mg/l (Daphnia magna)

LC50/48h 440 mg/l (fish)

NOEC/8d 425 mg/l (algae)

##### 12.2 Persistence and degradability

Biodegradable.

##### 12.3 Bioaccumulative Potential

Bioaccumulative potential:

No bioaccumulation of organisms.

##### 12.4 Mobility in soil

No other information are included.



Further ecological indications :

General guidance :

Dangerous for the aqueous environment- First class (Our estimation) : slightly hazardous

Avoid leakage to the environment.

### 12.5 Results of PBT and vPvB assessment

Assessment of PBT and vPvB

Non registered substance PBT. Non registered substance vPvB.

### 12.6 Other negative effects

No data available

## ALKYL ETHER CARBOXYLIC ACID

### 12.1 Toxicity

Product/ingredients name	Result	Category	Exposure	Test
Alkyl ether carboxylic acid Alkyl ether carboxylic acid	Acute LC50 >100 mg/l Acute EC50 >100 mg/l	Fish Algae	96 hours 72 hours	- OECD 201 Alga, Growth Inhibition Test
	Acute EC50 67 mg/l	Daphnia	48 hours	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test and Reproduction Test
	Acute LC50 >100 mg/l	Fish	96 hours	OECD 203 Fish, Acute Toxicity Test

### 12.2 Endurance and degradability

Product/ingredients name	Half-life in water	Photolysis	Biodegradability
Alkyl ether carboxylic acid	-	-	Directly

### 12.3 Bioaccumulative potential

### 12.4 Mobility in soil

Coefficient : No data available

Soil/Water(KOC)

Mobility : No data available

### 12.5 Results of PBT and vPvB assessment

PBT : Num.

vPvB : Num.

### 12.6 Other negative effects

There aren't any known effects or critical hazards.

## Section 13: Disposal considerations

### 13.1 Waste treatment methods

**Deposition** according to the local and national rules

**Unclean packagings:**

Only the empty containers should be deposited as recyclable materials.

**Section 14: Transport information**

The transport of the product in containers of the company is safe and does not require any additional precautions.

**14.1 UN Number**

ADR/RID : 3265 IMDG : 3265. IATA : 3265

**14.2 Proper shipping name**

ADR/RID :CORROSIVE ORGANIC ACIDS

IMDG : CORROSIVE ORGANIC ACIDS

IATA : CORROSIVE ORGANIC ACIDS

**14.3 Transport hazard class**

ADR/RID : 8 IMDG: 8. IATA : 8

**14.4 Packing Group**

ADR/RID : II. IMDG : II. IATA : II -

**14.5 Environmental hazards**

ADR/RID : No. IMDG: No. Marine pollutant : No. IATA : No

**14.6 Special precautions for user**

No data available

**Section 15: Regulatory information**

**15.1 Regulations/legislation regarding safety, health and environment for the substance or mixture**

There is no data

**15.2 Chemical safety assessment**

There hasn't been a chemical safety assessment for this product.

**Section 16: Other information**

Full text of H-phrases mentioned in sections 2 and 3.

H314: Causes serious skin burns and eye damage

H319: Causes serious eye irritation.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H332: Harmful in case of inhalation

Skin Corr. / Irrit. Skin Corrosion/Irritation

The above information are claimed to be correct but they don't include all the elements and should be used only as a guide. The information of this document are based on the current level of knowledge and are valid for the product only if the precautions are followed and it cannot be considered as a guarantee for quality specification of the product.

