

Safety Data Sheet

According to REGULATION EC 1907/2006
Version 2 Date of issue 30/10/2017

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **ZEO DESCALER**

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 1B),H314

Causes serious eye damage (Cat.1) H318

May be corrosive to metals (Cat.1) H290

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Pictogram



Signal word: Hazard

Hazard statements(recognized)

H314: Causes serious skin burns and eye damages.

H290: May be corrosive to metals

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 vommiting.

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.

P234: Keep only in original packaging.

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

Additional Hazard Statements

No other known hazards

2.3 Other hazards

The product does not contain ingredients to be considered as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher.

Section 3 : Composition/information on ingredients

3.1 Mixtures

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

Component	Classification	Concentration
Methanosulfonic acid Αριθμός REACH (01-2119491166-34) (N° ANNEX: 607-145-00-4) EC:200-898-6 CAS No:75-75-2	Met. Corr. 1; H290 Acute Tox. 4 (by mouth); H302 Acute Tox. 4 (skin); H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335	5% - 15 %
Glycolic Acid No REACH 01-2119485579-17 CAS No:79-14-1	Acute Tox. 4; H332 Skin Corr. 1B; H314	0 % - 5 %
Alkyl ether carboxylic acid No REACH 01-0000019096-68	Skin Irrit 2, H315 Eye Dam. 1, H318	0 % - 5 %

For the full text of H-phrases see Section 16

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:

Remove contaminated clothes and shoes immediately. 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:

DO NOT cause vomit. 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

No data available

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

nitrogen oxides (NOx)

5.3 Recommendations for firefighters

Wear self-contained breathing apparatus, when it is necessary

5.4 More information

Use water spray to freeze sealed containers.

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:

The injected material is collected safely in sparks hood or with wet wiping and is given n container for disposal according to local legal provisions (see section 13)

6.4 Reference to other sections

Information for disposal, see section 13.

Handling and storage

7.1Precautions for safe handling

Avoid inhaling vapor and mist. Keep away from flammable sources.

Smoke is forbidden. Standard procedure for fire prevention.

Keep away from flammable and heat resources.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

The container is stored hermetically sealed in a dry place with good ventilation. The open containers must be carefully closed and upright stored, in order to avoid any leak. Store in cool place.

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

GLYCOLIC ACID

Level without impacts (DNEL)

Kind	Exposure	Price	Population	Impacts
DNEL	Long-term Dermal	57,69 mg/kg bw/day	Workers	Systematic
DNEL	Long-term inhalation	9,2 mg/m ³	Workers	Systematic
DNEL	Long-term Dermal	28,85 mg/kg bw/day	Consumers	Systematic
DNEL	Long-term inhalation	2,3 mg/m ³	Consumers	Systematic
DNEL	Long-term oral	0,75 mg/kg bw/day	Consumers	Systematic

Predicted No Effect Concentration (PNEC)

Section: sweet water	Price: 0.0312mg/l
Section : sea water	Price: 0.0031mg/l
Section: Intermittent use / release	Price: 0.312 mg / l
Section: Fresh water sediment	Price: 0.115 mg / kg
Section: Marine precipitate	Price: 0.0115 mg / kg
Section: Soil	Price: 0.007 mg / kg
Section: Sewage treatment plant	Price: 7 mg / l
Section: Oral (food chain)	Price: 16.66 mg / kg

Level without impacts: METHANOSULFONIC ACID

Final use	Inhalation	Swallowing	Contact with skin
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Workers	6,76 mg/m ³ (LT, SE) 2,89 mg/m ³		19,44 mg/kg body weight /day (LT, SE)
Consumers	1,44 mg/m ³ (LT, SE) 1,73 mg/m ³ (LT, LE)	8,33 mg/kg body weight /day (LT, SE)	8,33 mg/kg body weight /day (LT, SE)

Le: local effects, SE: systemic effects , LT: long-term effects , ST: short-term effects

Predicted No Effect Concentration :METHANOSULFONIC ACID

Section:	Price:
Sweet water	0,012 mg/l
Sea	0,0012 mg/l
Water (Dashed Release)	0,12 mg/l
Effect on sewage treatment plants	100 mg/l
Sediment	0,0251 mg/kg dw
Terrain	0,00183 mg/kg dw
Oral (Aquatic Environment (including sediment))	Not important

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:

Protective glasses with perfect seal. Protective face shield (at least 8 inches). For eye protection use equipment tested and approved according to the proper government standards, such as 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. 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

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

When the risk assessment indicates that it is appropriate to use respirators, use full face respirator with multifunctional combination or respirator spare filters type ABEK (EN 14387) as an alternative of the engineering controls. When the respirator is the only protection use full face respirator with independent air supply. 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

9.1 General Information about physical and chemical properties

a) Appearance:

liquid

Colour:	uncoloured
b) Smell	characteristic
c) Smell limit	No data
d) pH	0±0,5
e) Melting point/freezing point	No data
f) Initial boiling point/boiling area	No data
g) Flashpoint	unflammable
h) Evaporation speed	No data
i) Flammability (solid,liquid)	No data
j) Lower/Upper Explosion limits	No data
k) Steam pressure	No data
l) Steam density	No data
m) Relative density	No data
n) Solubility in water	full
o) Distribution factor n-octanol/H2O)	No data
p) Flammability temperature	No data
q) Decomposition temperature	No data
r) Viscosity	No data
s) Explosion qualities	unusable
t) Oxidation qualities	unusable

9.2 Other information for safety

No data

Section 10 : Stability and reactivity
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10.1 Reactivity

There is no data.

10.2 Chemical stability

Stable if stored and applied as directed.

10.3 Possibility of hazardous reactions

There is no data.

10.4 Conditions to avoid

There is no data.

10.5 Incompatible materials:

Metals, strong bases, sodium hypochlorite

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

METHANOSULFONIC ACID

Acute toxicity:

Inhalation: Slightly harmful by inhalation

- In animals: No mortality / 6 h / Rat: 0.74 mg / l

Ingestion: Harmful if swallowed.

Risk of burns in the mouth, esophagus and stomach

- In animals: LD50 / Rat: 1.158 mg / kg (Method: OECD Test Guideline 401)

Skin: Harmful in contact with skin.

- In animals: LD0 / Rabbit:> 1,000 mg / kg

Local effects (Corrosion / Irritability / Severe eye damage):

Contact with skin: Causes burns.

Skin-damaging (In Vitro Membrane Damage Method for Corrosion

Skin - CORROSITEX, Exposure time: 1 h)

Eye contact: Causes serious eye damage.

- On Animals: Corrosive (Draize Experiment, Rabbit)

Respiratory sensitization or sensitization of the skin:

Inhalation: No data available.

Skin contact: Not skin sensitizer

- In animals: No skin allergy was observed (Method: OECD Test Guideline 406,

Waterfowl)

CMR effects:

Mutagenicity: According to available experimental data: Non-genotoxic

In vitro

Ames In vitro Assay: Inactive (Method: OECD Guideline 471)

In vitro gene mutation assays in mammalian cells: Inactive (Method: OECD

Guideline 476)

In vivo

Mouse in vivo micronucleus assay: Inactive

Carcinogenicity: Based on available data, the substance is not suspected of carcinogenicity

Reproductive toxicity:

Fertility: According to the available experimental data: Absence of toxic effects on fertility

Fetal development: According to available experimental data: Absence of toxic effects for embryonic development.

Specific Toxicity to Instruments: Unique Exposure:

Inhalation: Irritating to respiratory system.

- In animals: Irritable to nasal mucous membranes, Rat (0.23 mg / l)

Repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

- In animals: Through inhalation: Local irritation of respiratory system Target instruments: Nasal epithelium (Rat, 1 Months)

NOAEL = 0.026 mg / l

Maximum concentration without any systemic toxic effect of 0.242 mg / l

Aspiration hazard: No data available.

CLYCOLIC ACID

Acute oral toxicity

LD50 / Rat: 2040 mg / kg

Method: US EPA TG OPP 81-1

Acute inhalation toxicity

Acute toxicity estimate: 4.85 mg / l

Acute dermal toxicity

Acute toxicity / human assessment:> 5 000 mg / kg

Method: Expert judgment

Skin irritation

Rabbit

Classification: Corrosive Result: Causes burns.

Method: OECD Test Guideline 404

Eye irritation

Rabbit

Classification: Causes serious burns.

Result: Corrosive

Method: OECD Test Guideline 405

Sensitization

Waterwind

Classification: Does not cause skin sensitization.

Result: Does not cause skin sensitization.

Method: OECD Test Guideline 406

Repeated dose toxicity

Oral NOAEL Rat: 150 mg / kg
 Method: OECD Test Guideline 408
 Changes in organ weight, Effects on the kidneys

Assessment of mutagenicity

Experiments on animals showed no mutagenicity. Experiments on bacteria and mammalian cell cultures did not show a mutational effect.

Assessment of carcinogenicity

Not classified as carcinogenic to humans. Experiments on animals have shown no carcinogenic effects

Evaluation of Reproductive Toxicity

No Reproduction Toxicity .Animal experiments have not shown reproductive toxicity

Assessment of teratogenicity

Data suggest that the substance is not a developmental toxin for animals.

Carcinogenicity

Conclusion / Summary: No data available.

Toxicity to reproduction

Conclusion / Summary: No data available.

Teratogenic potential

Conclusion / Summary: No data available

ALKYL ETHER CARBOXYLIC ACID

Acute toxicity

Product/components name	Result	Kind	Dosage
Alkyl ether carboxylic acid	LD50 oral	Mouse	>2000 mg/kg

Sensitive substance

Product/components name	Kind of exposure	kind	Result
Alkyl ether carboxylic acid	skin	mouse	It does not cause sensitization

Mutuality

Product/components name	Test	Experiment	Result

Alkyl ether carboxylic acid	-	Experiment: In vitro Object: Bacteria	negative
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Carcinogenicity

Conclusion / Summary: No data available.

Toxicity to reproduction

Conclusion / Summary: No data available.

Teratogenic potential

Conclusion / Summary: No data available.

Section 12 : Ecological information

METHANOSULFONIC ACID

Acute toxicity to the aquatic environment: Harmful to aquatic organisms.

12.1. Toxicity:

Fish: Harmful to fish.

LC50, 96 h (Oncorhynchus mykiss): 73 mg / l (Method: OECD Test Guideline 203, pH: 7.2)

Aquatic invertebrates: Slightly harmful to daphnia

EC50, 48 h (Daphnia magna): 260 mg / l (Method: OECD TG 202, pH: 8.3, Immobilization)

Aquatic plants: Harmful to algae.

EC50, 72 h (Selenastrum capricornutum): 12 - 24 mg / l (Method: OECD TG 201, inhibition of growth)

Microorganisms:

EC50, 3 h (Activated sludge): 560 mg / l (Method: Standard: ISO 8192, pH: 3.2, Inhibition of activated sludge)

EC10: 160 mg / l

Water toxicity / Long-term toxicity:

Aquatic plants:

NOEC, 72 h (Selenastrum capricornutum): 5.8 mg / l (Method: OECD TG 201, inhibition of growth rate)

12.2. Persistence and degradability:

Biodegradation (In water):

10 day window: 84%, 90% after 28 Days (Method: OECD Guideline 301 F)

12.3. Bioaccumulative potential:

Bioaccumulation: According to its recommendation: Bioaccumulation is unlikely.

Partition coefficient: n-octanol / water: log Kow: -2.38 (Method: calculated)

12.4. Mobility on the ground - Distribution between environmental compartments:

Henry Continuous:

1.28E-03 Pa.m³ / mol, 25 ° C,, (Method: calculated)

Absorption / Desorption:

Moving extremely on the ground, log Koc: 0, Koc: 1 (Method: calculated)

12.5. Results of the PBT and vPvB assessment:

This substance is not considered as persistent, bioaccumulative, toxic (PBT) or highly persistent, very bioaccumulative (vPvB).

12.6. Other adverse effects: None known.

ALKYL ETHER CARBOXYLIC ACID

12.1 Toxicity

Product/ingredient name	Result	Kind	Exposure	Test
Alkyl ether carboxylic acid	Acute LC50 >100 mg/l	Fish	96 hours	-
	Acute EC50 >100 mg/l	seaweed	72 hours	OECD 201 Alga, Growth Inhibition Test
	Acute EC50 67 mg/l	laurels	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 Persistence and degradability

Product/ingredient	Duration of half-life in	Photolysis	Biodegradability
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name	water		
Alkyl ether carboxylic acid	-	-	immediatly

12.3 Possibility of bioaccumulation

12.4 Mobility on the ground

Dispersing factor: No data available.

Soil / Water (KOC)

Mobility: No data available.

12.5 Results of the PBT and vPvB assessment

PBT: No.

vPvB: No.

12.6 Other adverse effects: No known significant effects or critical hazards.

Impact

GLYCOLIC ACID

12.1 Toxicity

Toxicity to fish

LC50 / 96 h / Pimephales promelas: 164 mg / l

Toxicity to aquatic plants

ErC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 44 mg / l

Method: OECD TG 201

NOEC / 72 h / Pseudokirchneriella subcapitata (green algae): 20 mg / l

Method: OECD TG 201

Toxicity to aquatic invertebrates

EC50 / 48 h / Daphnia magna: 141 mg / l

Method: OECD TG 202

12.2. Persistence and degradability

Biodegradable

12.3. Bioaccumulative potential

No data available

Soil mobility

No data available

12.5. Results of the PBT and vPvB assessment

Assessment of PBT and vPvB

Unregistered PBT / unaltered vPvB

12.6. Other negative impacts

No data available

Section 13 : Disposal considerations

13.1 Waste treatment methods

Product

Burn into a chemical cremator with an afterburner and a rinsing device, but pay attention during the combustion. Leftovers and unrecyclable solutions are given to a qualified waste treatment company. The elimination is more effectively achieved with methods used for corrosive materials. Recycling or chemical change are preferred.

Unclean packagings

Dispose of as an unused product

Section 14 : Transport information

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 IMDGMarine pollutant: no IATA:no

14.6 Special precautions for user

No data available

Section 15: Regulatory information

This Safety Data Sheet is according to the Regulation (EC) num. 1907/2006.

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

Regulation (EU) 2015/830

CLP regulation 1272/2008/EC

REACH 1907/2006/EC

Detergents Regulation 648/2004/EC

Council Directive 98/24/EC of 7 April 1998 on the protection of health and safety of workers at work from risks arising from chemical agents

Directive 94/33/EC on the protection of young workers at work, as amended and in force.

Directive 92/85/EEC on the application of measures to improve the health and safety at work of pregnant women, workers, as amended and in force.

The surfactants contained in this product comply with the biodegradability criteria laid down in regulation (EC) No. 648/2004 for detergents. The data supporting this declaration shall be made available to the competent authorities of the Member States and will be provided to them upon direct request or at the request of the manufacturer of the detergent

Ingredients according to the Detergents Regulation 648/2004/EC

It contains, among others, below 5% anionic surfactants. Contains flavouring substances

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

H315: Causes skin irritation

H319: Causes serious eye irritation

H290: It can corrode metals

H302 : Harmful if swallowed

H332: Harmful if inhaled

H312: Harmful in contact with skin

H318: Causes serious eye damage.

H335: May cause respiratory irritation

Footnotes and Acronyms:

ADN - European Agreement concerning the international carriage of dangerous goods by

Inland waterways? ADR - the European Agreement concerning the international carriage of

Dangerous goods? AICS - Australian inventory of chemical substances? ASTM -

American Society for Testing and Materials? bw - body weight? CLP - Regulation on

Classification, labelling and packaging Regulation (EC) No. 1272/2008? CMR -

Carcinogenic, mutagenic substance toxic for reproduction; DIN - Model of

German Institute for Standardization? DSL - Summary of household substances (Canada)? ECHA -

The European Agency for chemical products; EC-Number - Number of European Community?

ECx - concentration associated with response x%? ELx - Percentage charge

Associated with response x%? EmS - Schedule an emergency? ENCS - Existing

And new chemicals (Japan)? ErCx - concentration associated with response rate

Increase x%? GHS - Global harmonized system? GLP - Good laboratory practice?

IARC International Investigations of Cancer? IATA - International Air Transport Association? IBC -

International Code for the construction and equipment of ships carrying dangerous

Chemicals in Bulk? IC50 - Half Maximum inhibitory concentration? ICAO - International Organization

Civil Aviation? IECSC - Inventory of Existing Chemical Substances in China? IMDG Code

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International Maritime Dangerous Goods Code? IMO - International Maritime Organization? ISHL

- Law on Industrial Safety and Health (Japan)? ISO - International Organization

Standardization? KECI - Inventory of Existing Chemical Substances in Korea? LC50 - Deadly

Concentration in 50% of the population test? LD50 - lethal dose in 50% of the population

Test (average lethal dose)? MARPOL - International Conference for the prevention of pollution

From ships? n.o.s. - Not otherwise specified? NO(A)EC concentration at which no

Observed (adverse) effects? NO(A)EL - the level at which are not observed

(Adverse) effects? NOELR - Percentage burden which are not observed

Effects? NZIoC - inventory of chemical substances in New Zealand; OECD - Organization

For Economic Cooperation and Development? OPPTS - Security Service Chemicals and

The prevention of pollution? PBT - Persistent, bioaccumulative and toxic substance? PICCS -

Inventory of chemical substances in the Philippines; (q)SAR - (quantitative structure-activity relationship)?

REACH - Regulation (EC) No 1907/2006 of the European Parliament and the Council

Concerning the registration, evaluation, authorisation and restriction of chemicals

Products? RID - Regulations for the international transport of dangerous

Goods? SADT - self-accelerating decomposition temperature? SDS - Data Sheet

Safety Data? TCSI - inventory of chemical substances in Taiwan? TRGS - Technical standard

For dangerous substances? TSCA - Law on the control of toxic substances (United States); UN

- United Nations? vPvB - Extremely durable and extremely persistent substance

Further information

The above information relates only to the specific product of our company based on the

Our current level of knowledge and is not a guarantee of some specific product features

This information may not apply to this product when used in

Combination with other materials or other activities, unless indicated in the text.