Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 17.02.2021 Version number 5 Revision: 17.02.2021

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

· **1.1 Product identifier**

· **Product name: KS133 - ALK4 - Alkalinity LR Titrant**

· **Catalog number:** 56Z013398, 56L013365, 56U013365, 56L013397, 56U013397, 56L0133

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

· **Application of the substance / the preparation:** Reagent for water analysis

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

· **Supplier:**
Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com
phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom
phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**
e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**
+44 1235 239670
Languages: English

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SECTION 2: Hazards identification

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

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


GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**


GHS05

· **Signal word** Warning
· **Hazard statements**
H290 May be corrosive to metals.
· **Precautionary statements**
P234 Keep only in original packaging.
P280 Wear protective gloves / eye protection.
P390 Absorb spillage to prevent material damage.

· **2.3 Other hazards** No further relevant information available.

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· **Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
· **Determination of endocrine-disrupting properties**
The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** weak sulfuric acid solution

· **Dangerous components:**

CAS: 7664-93-9 EINECS: 231-639-5 Index No: 016-020-00-8 Reg.nr.: 01-2119458838-20-XXXX	sulphuric acid Met. Corr.1, H290; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Dam. 1; H318: C ≥ 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	2.5-<5%

· **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** Instantly remove any clothing soiled by the product.
· **After inhalation** Supply fresh air; consult doctor in case of symptoms.
· **After skin contact** Instantly wash with water and soap and rinse thoroughly.
· **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
· **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed:** Causes mild skin irritation.
· **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
· **5.2 Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SOx)
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
· **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· **Advice for emergency responders:** Protective equipment: see section 8

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· **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Dilute with much water.
· **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Use neutralising agent.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose of contaminated material as waste according to item 13.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
· **Advice on safe handling:** No special precautions necessary if used correctly.
· **Hygiene measures:**
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and containers:** Store in cool location.
· **Information about storage in one common storage facility:** Store away from metals.
· **Further information about storage conditions:**
Protect from heat and direct sunlight.
Protect from the effects of light.
Protect from humidity and keep away from water.
· **Recommended storage temperature:** 20°C +/- 5°C

· **7.3 Specific end use(s)** No further relevant information available.

* SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
CAS: 7664-93-9 sulphuric acid	
WEL (Great Britain)	Long-term value: 0.05* mg/m³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m³

· **Regulatory information**
WEL (Great Britain): EH40/2018
IOELV (European Union): (EU) 2017/164
· **Additional information:** IOELV = Indicative Occupational Exposure Limit

· **DNELs**
Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid		
Inhalative	DNEL	0.1 mg/m³ (Worker / acute / local effects) 0.05 mg/m³ (Worker / acute / systemic effects)

· **Recommended monitoring procedures:**
Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· **PNECs**
Predicted No Effect Concentration (PNEC)

CAS: 7664-93-9 sulphuric acid	
PNEC	8.8 mg/l (Sewage treatment plant)
	0.00025 mg/l (Marine water)
	0.0025 mg/l (Fresh water)
PNEC	0.002 mg/kg (Marine sediment)

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	0.002 mg/kg (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

· **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
· **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
· **Hand protection**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
· **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
· **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Other skin protection (body protection):** Protective work clothing.
· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
· **Recommended filter device for short term use:** Filter P2

· **Environmental exposure controls** Avoid release to the environment.

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **Physical state**	Fluid
· **Form:**	Liquid
· **Colour:**	Colourless
· **Odour:**	Odourless
· **Odour threshold:**	Not applicable
· **Melting point/Freezing point:**	Not determined
· **Boiling point or initial boiling point and boiling range**	100°C (CAS: 7732-18-5 water)
· **Flammability**	Not applicable.
· **Explosive properties:**	Product is not explosive.
· **Lower and upper explosion limit**	
· **Lower:**	Not applicable
· **Upper:**	Not applicable
· **Flash point:**	Not applicable
· **Ignition temperature:**	Not applicable
· **Decomposition temperature:**	Not determined.
· **pH**	1
· **Kinematic viscosity**	Not determined.
· **Solubility**	
· **Water:**	Fully miscible
· **Partition coefficient n-octanol/water (log value)**	Not applicable (mixture).
· **Vapour pressure:**	Not determined.
· **Density and/or relative density**	
· **Density at 20°C:**	~1 g/cm³
· **Relative density:**	Not determined.
· **Relative gas density**	Not determined.
· **Particle characteristics**	Not applicable (liquid).

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· **9.2 Other information**

· **Information with regard to physical hazard classes**
· **Corrosive to metals**
May be corrosive to metals.
· **Other safety characteristics**
· **Oxidising properties:** none
· **Additional information**
· **Solvent content:**
· **Organic solvents:** 0.0 %
· **Water:** > 95 %

SECTION 10: Stability and reactivity

· **10.1 Reactivity** see section 10.3
· **10.2 Chemical stability** Stable at ambient temperature (room temperature).
· **10.3 Possibility of hazardous reactions**
Reacts with metals forming hydrogen (--> Explosive!)
Corrosive action on metals
Reacts with acids and alkali (lyes).
Reacts with ammonia (NH_3).
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
metals
organic solvents
· **10.6 Hazardous decomposition products:** see section 5

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SECTION 11: Toxicological information

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

· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

CAS: 7664-93-9 sulphuric acid

Oral	LD50	2140 mg/kg (rat)
	LC 50	510 mg/m³/2h (rat)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Information on components:** CAS 7664-93-9: chronic: dermatitis

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Additional toxicological information:**
Vapours and aerosols may be irritant to the mucous membranes and upper respiratory tract.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
CAS: 7664-93-9 sulphuric acid	
EC50	>100 mg/l/48h (Daphnia magna) (OECD 202)
LC50	16–29 mg/l/96h (bluegill)

· **Bacterial toxicity:** sulphates toxic > 2.5 g/l
· **Other information:**
Toxic for fish:
sulphates > 7 g/l
· **12.2 Persistence and degradability** .
· **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects** Avoid transfer into the environment.
· **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

· **European waste catalogue**	
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN3264

· **14.2 UN proper shipping name**
· **ADR** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID)
· **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID)

· **14.3 Transport hazard class(es)**

· **ADR**

· **Class** 8 (C1) Corrosive substances.

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· **Label**	8
· **IMDG, IATA**	

· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Corrosive substances.
· **Kemler Number:**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Acids
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors**
This product is regulated by Regulation (EU) 2019/1148:
All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.
Please see https://ec.europa.eu
· **explosives precursors - ANNEX I**
CAS 7664-93-9: c < 15%

CAS: 7664-93-9	sulphuric acid

· **explosives precursors - ANNEX II**

None of the ingredients is listed.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **Directive 2012/18/EU (SEVESO III):**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**
This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

· **Information about limitation of use:** Not required.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

· **Abbreviations and acronyms:**
OECD: Organisation for Economic Co-operation and Development
STOT: specific target organ toxicity
SE: single exposure
RE: repeated exposure
EC50: half maximal effective concentration
IC50: hallf maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A

· **Sources** Data arise from safety data sheets, reference works and literature.

· *** Data compared to the previous version altered.**