Tintometer[®] Group Water Testing



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

Printing date 27.10.2023

Version number 7 (replaces version 6)

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

- 1.1 Product identifier
- Product name: KS404 Sulfuric Acid 10% v/v
- · Catalog number: 56Z040498, 56L0404, 56L040465, 56L040497, 56U040465, 56U040497, MO354.1
- 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

The Tintometer Limited Lovibond[®] House Sun Rise Way Amesbury Wiltshire SP4 7GR United Kingdom

- Informing department: e-mail: sds@lovibond.com
 Product Safety Department
- **1.4 Emergency telephone number:** +44 1235 239670 Languages: English

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.

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

- The product is classified and labelled according to the GB CLP regulation.
- · Hazard pictograms



• Signal word Danger

- Hazard-determining components of labelling:
- sulphuric acid 17 % • Hazard statements
- H290 May be corrosive to metals.

phone: +49 (0)231 94510-0 e-mail: sales@lovibond.com

phone : +44 1980 664800 e-mail: SDS@lovibond.uk

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(Contd. of page 1) H314 Causes severe skin burns and eye damage. Precautionary statements P260 Do not breathe mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection. Keep only in original packaging. P234 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a doctor. · 2.3 Other hazards No further relevant information available. 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: sulfuric acid solution

 • Dangerous components:
 CAS: 7664-93-9
 sulphuric acid
 15–20%

 EINECS: 231-639-5
 Met. Corr. 1, H290; Skin Corr. 1A, H314
 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 %
 15–20%

 Index No: 016-020-00-8
 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 %
 Specific concentration limits: Skin Corr. 1A; H315: 5 % ≤ C < 15 %</td>
 15–20%

 Eye Dam. 1; H318: C ≥ 15 %
 Eye Dam. 1; H319: 5 % ≤ C < 15 %</td>
 Eye Irrit. 2; H319: 5 % ≤ C < 15 %</td>
 15

• 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.
- Call a doctor immediately.
- After skin contact

Instantly wash with polyethylene glycol 400.

Instantly rinse with water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting; instantly call for medical help.

- 4.2 Most important symptoms and effects, both acute and delayed:
- burns
- after inhalation: breathing difficulty damage to the affected mucous membranes after swallowing: strong caustic effect.
- sickness
- vomiting diarrhoea
- pain

Danger

Danger of system failure. Danger of gastric perforation. Danger of pulmonary oedema.

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• **4.3 Indication of any immediate medical attention and special treatment needed:** If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

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- 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.
- Can be released 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.
- Avoid substance contact. Ensure adequate ventilation
- Use breathing protection against the effects of fumes/dust/aerosol.
- Advice for emergency responders: Protective equipment: see section 8
- · 6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

· 6.3 Methods and material for containment and cleaning up:

- Ensure adequate ventilation.
- Use neutralising agent.

Neutralize with diluted sodium hydroxide solution.

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:
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- · Hygiene measures:
- Do not inhale gases / fumes / aerosols.
- Do not get in eyes, on skin, or on clothing.
- 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. Keep only in original packaging.
- Information about storage in one common storage facility: Store away from metals.

Do not store together with alkalis (caustic solutions).

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Store away from flammable	(Contd. of page	: 3
Store away from reducing		
see chapter 10		
 Further information about Protect from heat and direct 		
Protect from the effects of	light.	
Protect from humidity and • Recommended storage t	keep away from water.	
· ·	•	
· 7.5 Specific end use(s) N	o further relevant information available.	
SECTION 8: Exposu	re controls/personal protection	
· 8.1 Control parameters		
_	alues that require monitoring at the workplace:	
CAS: 7664-93-9 sulphurio		
	Long-term value: 0.05* mg/m³ *mist: defined as thoracic fraction	
	Long-term value: 0.05 mg/m³	
 Regulatory information WEL (Great Britain): EH40 	(2020	
IOELV (European Union):		
	DELV = Indicative Occupational Exposure Limit	
DNELs		
Derived No Effect Level (D	•	
CAS: 7664-93-9 sulphurie	; acio n³ (Worker / acute / local effects)	
	/m³ (Worker / acute / systemic effects)	
· Recommended monitori		
	of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and	
PNECs		
Predicted No Effect Conce		
PNEC 8.8 mg/l (Sewage t		
0.00025 mg/l (Mari		
0.0025 mg/l (Fresh	,	
PNEC 0.002 mg/kg (Marir	e sediment)	
0.002 mg/kg (Fresh	water sediment)	
• Additional information: 1	he lists that were valid during the compilation were used as basis.	
· 8.2 Exposure controls		
· Engineering measures:		
	ppropriate working operations should be given priority over the use of personal protective equipment	•
· Individual protection me	asures, such as personal protective equipment	
	be selected specifically for the workplace, depending on concentration and quantity of the hazardous	i
substances handled. • Eye/face protection Tight	ly sealed safety diasses	
· Hand protection	y scaled salety glasses.	
Acid resistant gloves		
	by use of skin-protecting agents is recommended. kin-cleaning agents and skin cosmetics.	
• Material of gloves apply s	אוריסיכמווווא מעבוונס מוע סתור טיסוווכווניס.	
nitrile rubber, NBR		
Recommended thickness of Report and Recommended thickness of Report and Recommended thickness of		
Penetration time of glove Breakthrough time: > 480 i		

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CA3. 700	4-95-9 Sulphul	
WEL (Gre	at Britain)	Long-term value: 0.05* mg/m ³
		*mist: defined as thoracic fraction
IOELV (Eu	uropean Union)	Long-term value: 0.05 mg/m³
WĔL (Gre IOELV (Eu	, ,	
· DNELs Derived N	o Effect Level (DNEL)
CAS: 766	4-93-9 sulphur	ic acid
Inhalative	DNEL 0.1 mg	/m³ (Worker / acute / local effects)
	0.05 m	g/m³ (Worker / acute / systemic effects)
		ing procedures:
		nt of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and
	20	

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· As protection from splashes gloves made of the following materials are suitable	e:
nitrile rubber, NBR	

Recommended thickness of the material: ≥ 0.11 mm

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): Acid resistant protective clothing

· Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

- · Recommended filter device for short term use: Combination filter E-P2
- · Environmental exposure controls Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properti	es		
· 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	Not determined.		
Flammability	The product is not combustible.		
• Explosive properties:	Product is not explosive.		
Lower and upper explosion limit	·		
Lower:	Not applicable.		
Upper:	Not applicable.		
Flash point:	Not applicable.		
 Auto-ignition temperature: 	Not applicable.		
Decomposition temperature:	Not determined.		
· pH at 20°C	<1		
	Strongly acidic		
 Kinematic viscosity 	Not determined.		
· Solubility			
· Water:	Fully miscible		
 Partition coefficient n-octanol/water (log value) 	Not determined.		
· Vapour pressure:	Not determined.		
 Density and/or relative density 			
· Density at 20°C:	1.11 g/cm ³		
· Relative density:	Not determined.		
Relative gas density	Not determined.		
 Particle characteristics 	Not applicable (liquid).		
· 9.2 Other information			
· Information with regard to physical hazard classes			
· Corrosive to metals	May be corrosive to metals.		
	Information on incompatible materials can be found in Sections 7 and		
	10.		
· Other safety characteristics			
• Oxidising properties:	Oxidising potential		
Additional information	- VI "		
· Solids content:	0.0 %		
Solvent content:			
Organic solvents:	0.0 %		
· Water:	80-85 %		

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

Corrosive action on metals

Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)

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When diluting, always add acid to water, never vice versa Diluting or dissolving in water always causes rapid heating Reacts with reducing agents
Reacts with oxidizing agents
Reacts with peroxides
Reacts with halogenated compounds
Reacts with acids and alkali (lyes).
Reacts with ammonia (NH₃).
10.4 Conditions to avoid strong heating
10.5 Incompatible materials: metals combustible substances organic solvents
10.6 Hazardous decomposition products: see section 5

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.

· Acute tox	icity Ba	ased on available data, the classification criteria are not met.
· LD/LC50	values	that are relevant for classification:
CAS: 766		sulphuric acid
Oral	LD50	2140 mg/kg (rat) (IUCLID)
Inhalative	LC 50	510 mg/m³/2h (rat) IUCLID
· Serious e	ye dan erious e	rritation Causes severe skin burns and eye damage. nage/irritation eye damage. !
· Respirato	ory or s	kin sensitisation Based on available data, the classification criteria are not met.
· Carcinog	enicity	genicity Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. xicity Based on available data, the classification criteria are not met.
		arget organ toxicity) -single exposure Based on available data, the classification criteria are not met. arget organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.
· Aspiratio	n hazaı	rd Based on available data, the classification criteria are not met.
The intake are availal Generally, Following via the inta	e of sulf ble. local r impact act skin	ikely routes of exposure furic acid is mainly to be expected via the inhalative pathway in the form of aerosols. No studies on absorbability eactions cause the main effects. to the skin strong local effects are the main issue. There is no indication of absorption of relevant amounts of S. the gastrointestinal tract is assumed. However, no studies on the kinetics of uptake are available. [GESTIS]
Swallowing	g will le	ological information: ad to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. rrosive to the eyes, the skin and the respiratory tract. Inhalation of aerosols may cause lung oedema.
		sulphuric acid
	tic effect ritation	
Further	Informa	ition:

Concentrated S. differs considerably from dilute Sulfuric acid with regard to chemical properties and effects. With increased dilution Sulfuric acid acts less aggressively.

· 11.2 Information on other hazards

· Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

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· Other information

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 7664-93-9 sulphuric acid

EC50 >100 mg/l/48h (Daphnia magna) (OECD 202)

- (ECHA) LC50 16–29 mg/l/96h (bluegill)
- (Merck)
- 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
- Harmful effect due to pH shift.
- Forms corrosive mixtures with water even if diluted.
- Neutralisation possible in waste water treatment plants.
- · 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 informa	tion	
· 14.1 UN number or ID number · ADR, IMDG, IATA	UN2796	
· 14.2 UN proper shipping name		
ADR	2796 SULPHURIC ACID	
· IMDG, IATA	SULPHURIC ACID	
		(Contd. on page 8

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	(Contd. of page
· 14.3 Transport hazard class(es)	
· ADR	
Class	8 (C1) Corrosive substances.
·Label	8
· IMDG, IATA	
a the second sec	
· Class · Label	8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
 14.6 Special precautions for user Kemler Number: EMS Number: Segregation groups Stowage Category 	Warning: Corrosive substances. 80 F-A,S-B (SGG1) Acids B
 14.7 Maritime transport in bulk according to IMC instruments) Not applicable.
· Transport/Additional information:	
ADR Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
 Transport category Tunnel restriction code 	2 E
 IMDG Limited quantities (LQ) Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

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

· Poisons Act UK

· Regulated explosives precursors

The substance falls under regulated explosive precursors due to the fact that the concentration is greater than/equal ($c \ge x\%$) the stated mass percentage:

CAS: 7664-93-9 sulphuric acid	15%
· Regulated poisons	
None of the ingredients is listed.	
· Reportable explosives precursors	
None of the ingredients is listed.	
· Reportable poisons	
None of the ingredients is listed.	
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 Regulation (EU) 2019/1148 on the marketing and use of explosives precursors Acquisition, introduction, possession or use of this product by the general public is restricted 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 	t.
· explosives precursors - ANNEX I	
CAS: 7664-93-9 sulphuric acid	*
 Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC) 	
None of the ingredients is listed.	
 Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology: 	
None of the ingredients is listed.	
· Regulation (EC) No 273/2004 on drug precursors	
CAS: 7664-93-9 sulphuric acid	3
 Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countrie in drug precursors 	es
CAS: 7664-93-9 sulphuric acid	3
· 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.	
· 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 $\ge 0.1\%$ (w / w). Substances of very high concern (SVHC) according to UK REACH

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w). · Directive 2012/18/EU (SEVESO III):

· Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· Information about limitation of use: Employment restrictions concerning young persons must be observed (94/33/EC).

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:

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure EC50: half maximal effective concentration

IC50: half 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 (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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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 Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· Sources

Data arise from safety data sheets, reference works and literature. GESTIS- Stoffdatenbank (Substance Database, Germany) ECHA: European CHemicals Agency http://echa.europa.eu

• * Data compared to the previous version altered.

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