

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

Printing date 18.07.2018

Version number 18

Revision: 27.06.2018

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

· 1.1 Product identifier

· Product name: **Standard Solution COD 500 mg/l**

· Catalog number: 420804, 2420804

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

· Application of the substance / the preparation: Standard Solution for calibration purposes

· 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: +49 231 94510-0
e-mail: sales@tintometer.de

Tintometer GmbH
Division AQUALYTIC®
Schleefstr. 12
44287 Dortmund
Made in Germany
www.aqualytic.de

phone: +49 231 94510-755
e-mail: sales@aqualytic.de

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

phone : +44 1980 664800
e-mail: SDS@tintometer.com

· Informing department:

e-mail: sds@tintometer.de
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.

· 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

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Hazard statements

H290 May be corrosive to metals.

Precautionary statements

P234 Keep only in original packaging.

P390 Absorb spillage to prevent material damage.

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.

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	2.5-<5%
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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: slight irritations possible

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
Storage

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/m ³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m ³
OEL (Sweden)	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ C, V

Regulatory information

WEL (Great Britain): EH40/2011
IOELV (European Union): 91/322/EEC, 2000/39/EC, 2006/15/EC
OEL (Sweden): AFS2015:7
Additional information: IOELV = Indicative Occupational Exposure Limit

DNELs

Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid

Inhalative	DNEL	0.1 mg/m ³ (Worker / acute / local effects) 0.05 mg/m ³ (Worker / acute / systemic effects)
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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)

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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)
	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.
- **Personal protective equipment**
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Safety glasses
use against the effects of fumes / dust
- **Body protection:** Protective work clothing.
- **Limitation and supervision of exposure into the environment:** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Fluid
Colour:	Colourless
· Odour:	Odourless
· Odour threshold:	Not applicable
· pH-value at 20°C:	<1 Strongly acidic
· Melting point/Freezing point:	Not determined
· Initial boiling point and boiling range:	Not determined
· Flash point:	Not applicable
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	Not applicable
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product is not explosive.
· Flammability or explosive limits:	
Lower:	Not applicable
Upper:	Not applicable
· Oxidising properties:	none
· Vapour pressure:	Not determined.
· Density at 20°C:	1.01 g/cm ³
· Relative density:	Not determined.

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· Vapour density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies):	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	> 95 %
Solids content:	< 0.5 %
· 9.2 Other information	No further relevant information available.

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 (--> Explosive!)
 - Reacts with acids and alkali (lyes).
 - Reacts with ammonia (NH₃).
- **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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **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) (IUCLID)
Inhalative	LC 50	510 (pure) mg/m ³ /2h (rat) IUCLID

- **Primary irritant effect:**
- **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **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.

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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)
(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 No further relevant information available.

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 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 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

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

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 Transport in bulk according to Annex II of Marpol and the IBC Code	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)	5 L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

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

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

None of the ingredients is listed.

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

· **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.

· **Relevant phrases**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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

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· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord européen sur le transport 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

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

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.

IUCLID (International Uniform Chemical Information Database)

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