

METTLER TOLEDO SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006
(amended by Regulation (EU) 2020/878)

Redox Buffer 468 mV / pH 0.1

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

1.1. Product identifier

Product name Redox Buffer 468 mV / pH 0.1

Product code 52118029, 51350064

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

Use of the Substance/Mixture Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification Mettler-Toledo GmbH
Im Langacher 44
CH-8606 Greifensee
Switzerland
Tel: +41 22 567 53 22
Fax: +41 22 567 53 23
Email: ph.lab.support@mt.com

1.4. Emergency telephone number (24-Hour-Number): GBK GmbH +49 6132 84463

Revision date 14.04.2022

Version GHS 3.1 (Previous versions: GHS 3)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 Serious eye damage/eye irritation, Cat. 2, H319
Skin corrosion/irritation, Cat. 1, H314
Corrosive to metals, Cat. 1, H290

Additional information For the full text of the phrases mentioned in this Section, see Section 16.

2.2. Label elements



Signal Word	Danger
Hazard Statements	H290: May be corrosive to metals. H314: Causes severe skin burns and eye damage.
Precautionary statements	P280: Wear protective gloves, protective clothing, eye protection and face protection. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.
Supplemental information	None.
Product identifier	Sulphuric acid, CAS-No. 7664-93-9, EC-No. 231-639-5

Contents of package < 125 ml



Danger
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
P390: Absorb spillage to prevent material damage.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Buffer solution.

Components		CLP Classification	Product identifier
Deionised water	75% - 90%	-	CAS-No.: 7732-18-5 EC-No.: 231-791-2
Sulphuric acid	5% - 10%	Skin Corr. 1A H314 [Skin Corr. 1A H314: $C \geq 15\%$; Skin Irrit. 2 H315: $5\% \leq C < 15\%$; Eye Irrit. 2 H319: $5\% \leq C < 15\%$]	CAS-No.: 7664-93-9 EC-No.: 231-639-5 Index-No: 016-020-00-8

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities None known.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move to fresh air in case of accidental inhalation of vapours or decomposition products. Call a physician or poison control centre immediately.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. If eye irritation persists, consult a specialist.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Consult a physician for severe cases.

4.2. Most important symptoms and effects, both acute and delayed None known.

4.3. Indication of any immediate medical attention and special treatment needed None known.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry extinguishing agent or carbon dioxide.

Unsuitable extinguishing media None.

5.2. Special hazards arising from the substance or mixture The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds.

5.3. Advice for firefighters

Special protective equipment for firefighters Standard procedure for chemical fires. In the event of fire, wear self-contained breathing apparatus. Wear protective suit.

Specific methods Water mist may be used to cool closed containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid contact with skin and eyes. Use personal protective equipment. Sweep up to prevent slipping hazard.
For emergency responders	Use personal protective equipment. Sweep up to prevent slipping hazard. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up Neutralize with chalk, alkali solution or ammonia. Soak up with inert absorbent material. Keep in suitable and closed containers for disposal (Plastic container of HDPE).

6.4. Reference to other sections See chapter 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Wear personal protective equipment. Avoid contact with skin and eyes. Practice care and caution to avoid skin contact and inhalation of vapours or mists if generated.

7.2. Conditions for safe storage, including any incompatibilities Store at room temperature in the original container. Keep containers tightly closed in a cool, well-ventilated place. Store in a place accessible by authorized persons only. Storage class 8.

7.3. Specific end use(s) No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s) No data is available on the product itself.

Sulphuric acid (CAS 7664-93-9)	
UK - Workplace Exposure Limits (WELs) - STELs	0.15 mg/m ³ STEL (calculated, mist)
UK - Workplace Exposure Limits (WELs) - TWAs	0.05 mg/m ³ TWA (mist)
EU - Occupational Exposure (2009/161/EU) - Third List of Indicative Occupational Exposure Limit Values - TWAs	0.05 mg/m ³ TWA (taking into account potential limitations and interferences which take place in the presence of other Sulphur compounds, mist (thoracic fraction))

8.2. Exposure controls

Appropriate engineering controls	Avoid contact with skin, eyes and clothing.
Personal protection equipment	
Respiratory protection	No personal respiratory protective equipment normally required. Breathing apparatus needed only when aerosol or mist is formed. Respirator with combination filter for vapour/particulate (EN 14387).
Hand protection	Gloves made of Chloroprene. The selected protective gloves have to satisfy the specifications of Regulation (EU) No. 2016/425 and the standard EN 374 derived from it. Break through time: > 4 h. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Eye protection	Safety glasses with side-shields conforming to EN166.
Skin and body protection	Long sleeved clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Thermal hazards	No special measures required.
Environmental exposure controls	Prevent product from entering surface water or sewage.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Light yellow.
Odour	None.
Melting point/ freezing point:	Not determined.
Boiling point or initial boiling point / range:	Not determined.
Flammability:	Not determined.
Lower and upper explosion limit:	Not determined.
Flash point:	does not flash
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
pH:	0.1
Kinematic viscosity:	Not determined.
Solubility:	completely miscible (Water)
Partition coefficient n-octanol/water (log value):	Not determined.
Vapour pressure:	23 hPa (20 °C)
Density and/or relative density:	1.1
Relative vapour density:	Not determined.
Particle characteristics:	Not applicable.

9.2. Other information

9.2.1 Information with regard to physical hazard classes	No information available.
9.2.2 Other safety characteristics	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	No information available.
10.2. Chemical stability	Stable at normal conditions.
10.3. Possibility of hazardous reactions	Heating can release hazardous gases.
10.4. Conditions to avoid	Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.
10.5. Incompatible materials	Strong bases. Metals. Alkaline metals. Halogenated compounds. Ammonia.
10.6. Hazardous decomposition products	Sulphur oxides.

SECTION 11: Toxicological information

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

Acute toxicity	No data is available on the product itself. Deionised water (CAS 7732-18-5) Oral LD50 Rat > 90 mL/kg (FOOD_JOURN) Sulphuric acid (CAS 7664-93-9) Inhalation LC50 Rat = 0.375 mg/L 4 h(OECD_SIDS) Oral LD50 Rat = 2140 mg/kg (JAPAN_GHS)
Skin corrosion/irritation	Causes severe burns.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory / Skin Sensitisation	No data available.
Carcinogenicity	No data available.
Germ cell mutagenicity	No data available.
Reproductive toxicity	No data available.
Specific target organ toxicity (single exposure)	No data available.
Specific target organ toxicity (repeated exposure)	No data available.
Aspiration hazard	No data available.

Human experience No data available.

11.2. Information on other hazards

Symptoms related to the physical, chemical and toxicological characteristics The product causes burns of eyes, skin and mucous membranes.

Endocrine disrupting properties Contains no endocrine disrupting chemicals.

Other information No data available.

SECTION 12: Ecological information

12.1. Toxicity No data is available on the product itself. May change pH of waters.

Sulphuric acid (CAS 7664-93-9)
Ecotoxicity - Freshwater Fish - Acute Toxicity Data
LC50 96 h Brachydanio rerio >500 mg/L [static] (IUCLID)

12.2. Persistence and degradability The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential Does not bioaccumulate.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties Contains no endocrine disrupting chemicals.

12.7. Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products Dispose of in accordance with local regulations. European Waste catalogue code (EWC-code): 06 01 01*.

Contaminated packaging Dispose of as unused product.

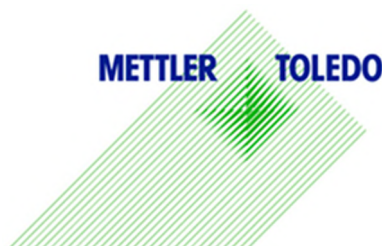
SECTION 14: Transport information

14.1. UN number or ID number UN 3264

14.2. UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
14.3. Transport hazard class(es)	8
14.4. Packing group	III
14.5. Environmental hazards	Marine pollutant: No.
14.6. Special precautions for user	Not applicable.
14.7. Maritime transport in bulk according to IMO instruments	Not applicable.

UN Model Regulations

ADR/RID	<p>UN 3264. Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid). Class 8. Packing group III. ADR/RID-Labels 8. Classification code C1. Hazard identification no. 80. Limited quantity 5 L. Excepted quantity E1. Transport category 3. Tunnel restriction code (E).</p>
IMDG	<p>UN 3264. Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid). Class 8. Packing group III. IMDG-Labels 8. Limited quantity 5 L. Excepted quantity E1. EmS F-A, S-B. Marine pollutant: No.</p>
IATA	<p>UN 3264. Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric acid). Class 8. Packing group III. IATA label 8. Packing instruction (passenger aircraft): 852 (5 L). Packing instruction (LQ): Y841 (1 L). Packing instruction (cargo aircraft): 856 (60 L).</p>
Inland navigation ADN	<p>UN 3264. Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid). Class 8. Packing group III. ADN labels 8. Classification code C1. Limited quantity 5 L. Excepted quantity E1.</p>



Further Information

None.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Regulatory Information**

The product is classified and labelled according to Regulation (EC) No. 1272/2008.

Sulphuric acid (CAS 7664-93-9)	
EU - Narcotics (111/2005) - Implementing Export Requirements - Scheduled Substances	Category 3 Substance ([2807 00 00])
EU - Narcotics (2015/1011) - Implementing Export Requirements - Annual Maximum Export Quantities for Exemption	100 kg
EU - Narcotics (273/2004) - Drug Precursors - Annex I - Scheduled Substances	Category 3 Substance ([2807 00 00])
EU - REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	Use restricted. See item 75. (B)
EU - REACH (1907/2006) - List of Registered Intermediates	Present ([231-639-5])
EU - REACH (1907/2006) - List of Registered Substances	Present
UN (United Nations) - Convention on Illicit Traffic in Narcotics & Psychotropics - Table II Substances	Present (listed under HS Code: 2807.00)

15.2. Chemical safety assessment

Not required.

SECTION 16: Other information**Revision Note**

Safety datasheet sections which have been updated: 3, 11, 12.

Key or legend to abbreviations and acronymsCLP: Classification according to Regulation (EC) No. 1272/2008 (GHS)
EWC: European Waste catalogue code**Key literature references and sources for data**

Information taken from reference works and the literature.

Classification procedure

Calculation method.

Full text of phrases referred to under sections 2 and 3H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H319: Causes serious eye irritation.

Instructions for use

For industrial application only.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.