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Safety Data Sheet

Redox buffer solution 468 mV pH 0.1 (9883)

1. Identification of the substance / preparation and the company / undertaking

Use of the substance / preparation	Redox buffer solution.
Chemical characterization	Aqueous solution containing inorganic salts and acid.
Product code	51 319 058
Supplier	Mettler-Toledo AG Process Analytics Im Hackacker 15 CH-8902 Urdorf Switzerland Tel: +41-44-729 62 11 Fax: +41-44-729 66 36
Emergency telephone number	+41-44-251 51 51 (Tox Center)
Revision date	09.05.2007
Number	3

2. Composition / information on ingredients

Hazardous components	Sulfuric acid ($\geq 5\%$), [C, R-35], CAS No. 7664-93-9, EU No. 016-020-00-8, EINECS No. 231-639-5
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3. Hazards identification

Irritating to eyes and skin.

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4. First aid measures

Inhalation	No special measures required.
Skin contact	Wash off with soap and water.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion	Immediately give large quantities of water to drink. Consult a physician for severe cases.

5. Fire-fighting measures

Suitable extinguishing media	No special measures required.
Extinguishing media which must not be used for safety reasons	None.
Specific hazards	The product is not flammable.
Special protective equipment for firefighters	Standard procedure for chemical fires.

6. Accidental release measures

Personal precautions	Sweep up to prevent slipping hazard.
Environmental precautions	Do not flush into surface water or sanitary sewer system.
Methods for cleaning up	Flush with water.

7. Handling and storage

Handling	When using, do not eat, drink or smoke. Avoid contact with skin and eyes.
Storage	Keep containers tightly closed.

8. Exposure controls / personal protection

Exposure limit(s)	OEL value: 0.1 mg/m ³ (Sulfuric acid) [Breathable dust; embryotoxic substance (group C): there is no reason to fear poisoning of the fetus as long as the exposure is below the OEL value].
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Engineering measures to reduce exposure	Avoid contact with skin, eyes and clothing.
Personal protection equipment: Respiratory protection	No personal respiratory protective equipment normally required.
Hand protection	Gloves.
Eye protection	Safety glasses.

9. Physical and chemical properties

Form	Liquid.										
Colour	Yellow. Clear.										
Odour	None.										
Physical and chemical properties	<table> <tr> <td>pH:</td> <td>0.1</td> </tr> <tr> <td>Boiling point/range:</td> <td>> 100 °C</td> </tr> <tr> <td>Relative density:</td> <td>~1 g/ml</td> </tr> <tr> <td>Flash point:</td> <td>does not ignite</td> </tr> <tr> <td>Water solubility:</td> <td>completely miscible</td> </tr> </table>	pH:	0.1	Boiling point/range:	> 100 °C	Relative density:	~1 g/ml	Flash point:	does not ignite	Water solubility:	completely miscible
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Water solubility:	completely miscible										

10. Stability and reactivity

Stability	Stable under recommended storage conditions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Materials to avoid	Incompatible with bases.
Hazardous decomposition products	Hydrogen, by reaction with metals.

11. Toxicological information

Acute toxicity	<u>Sulfuric acid:</u> LD50/oral/rat = 2140 mg/kg. LC50/inhalative/rat = 420 ppm (1h).
Local effects	Irritating to eyes and skin.
Sensitization	None.
Specific effects	No data is available on the product itself.
Human experience	This product has no known adverse effect on human health.
Further information	No persistent or cumulative effects were observed.

12. Ecological information

Ecotoxicity	Wastewater from subsequent processing should be given appropriate treatment in line with local regulations.
Mobility	No data is available on the product itself.

13. Disposal considerations

Waste from residues / unused products	Can be disposed as wastewater, when in compliance with local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

14. Transport information

ADR/RID	Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (contains sulfuric acid). UN No.: 3264. Kemler code: 80. Class: 8. Packing group: III. ADR/RID-Labels: 8.
IMO	Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (contains sulfuric acid). UN No.: 3264. Packing group: III. IMO-Labels: 8. EMS: F-A, S-B.
IATA	Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (contains sulfuric acid). UN No.: 3264. Packing group: III. IATA-Labels: 8. Packing instruction (passenger aircraft): 818 (5 L). Packing instruction (cargo aircraft): 820 (60 L).

15. Regulatory information

Regulatory information	The product is classified and labelled in accordance with EC directives or respective national laws.
Symbol(s)	Xi - Irritant.
R-phrases(s)	R36/38: Irritating to eyes and skin.
S-phrases(s)	S24: Avoid contact with skin. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S39: Wear eye/face protection.

16. Other information

Recommended use	For industrial application only.
Text of R phrases mentioned in section 2	R35: Causes severe burns.
End use	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. It is not to be considered a warranty or quality specification.
