

according to the Globally Harmonized System

Redox buffer solution 220 mV/pH 7

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier****Product name** Redox buffer solution 220 mV/pH 7**Product code** 52118027, 51350060, 51350062**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
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Email: ph.lab.support@mt.com

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

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SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 The substance or mixture is not classified.

In accordance with Regulation (EC) No. 1272/2008, the product does not need to be classified nor labelled.

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

2.2. Label elements

Signal Word	-
Hazard Statements	None.
Precautionary statements	None.
Supplemental information	None.
Product identifier	None.
2.3. Other hazards	No hazards to be specially mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Buffer solution.

Components		CLP Classification	Product identifier
Deionised water	95% - 99%		CAS-No.: 7732-18-5 EC-No.: 231-791-2
Potassium hexacyanoferrate(II)	0.1% - 0.9%	Aquatic Chronic 2 H411	CAS-No.: 14459-95-1 EC-No.: 237-722-2
Potassium hexacyanoferrate(III)	0.1% - 0.9%	Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335, EUH032	CAS-No.: 13746-66-2 EC-No.: 237-323-3

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. Consult a physician for severe cases.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion	Rinse mouth. Consult a physician for severe cases.

4.2. Most important symptoms and effects, both acute and delayed

If you feel unwell, seek medical advice (show the label where possible).

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.

Extinguishing media which must not be used for safety reasons

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.

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

Advice for non-emergency personnel

Ensure adequate ventilation. Use personal protective equipment. Sweep up to prevent slipping hazard. Avoid contact with skin and eyes. Do not breathe vapours/dust.

Advice for emergency responders

Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment. Sweep up to prevent slipping hazard.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

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.
7.2. Conditions for safe storage, including any incompatibilities	Store at room temperature in the original container.
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.
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8.2. Exposure controls

Appropriate engineering controls Avoid contact with skin, eyes and clothing.

Personal protection equipment

Respiratory protection In case of good ventilation no personal respiratory protective equipment required.

Hand protection Gloves made of latex. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. 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.

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

Appearance	Liquid.
Colour	Yellow.
Odour	None.
Odour Threshold	Not determined.
pH:	7

Melting point/range:	Not determined.
Boiling point/range:	Not determined.
Flash point:	Not determined.
Evaporation Rate:	Not determined.
Flammability:	Not determined.
Explosion limits:	Not determined.
Vapour pressure:	Not determined.
Vapor density:	Not determined.
Relative density:	Not determined.
Water solubility:	completely miscible
Partition coefficient (n-octanol/water):	Not determined.
Autoignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Not determined.
Explosive properties:	not hazardous
Oxidising properties:	None

9.2. Other information

General Product Characteristics	No information available.
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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 ionizing radiation.
10.5. Incompatible materials	None.
10.6. Hazardous decomposition products	Hydrogen cyanide (hydrocyanic acid). ($[\text{Fe}(\text{CN})_6]^{3-} \leftrightarrow [\text{Fe}(\text{CN})_5\text{H}_2\text{O}]^{2-} + \text{CN}^-$)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	No data is available on the product itself. Deionised water (CAS 7732-18-5) Oral LD50 Rat > 90 mL/kg (FOOD_JOURN)
Skin corrosion/irritation	No skin irritation.
Serious eye damage/eye irritation	No eye irritation.

Respiratory / Skin Sensitisation	None.
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.
Information on likely routes of exposure	dermal
Other information	The product contains no substances which at their given concentration, are considered to be hazardous to health.

SECTION 12: Ecological information

12.1. Toxicity	No data is available on the product itself.
12.2. Persistence and degradability	Expected to be biodegradable.
12.3. Bioaccumulative potential	Bioaccumulation is unlikely.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	No information available.
12.6. 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.
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport information

ADR/RID	Not regulated.
IMDG	Not regulated.
IATA	Not regulated.
Further Information	Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

Regulatory Information In accordance with Regulation (EC) No. 1272/2008, the product does not need to be classified nor labelled.

Deionised water (CAS 7732-18-5)	
Inventory - United States - Section 8(b) Inventory (TSCA)	Present (ACTIVE)
U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical Data Reporting Rule - Fully Exempt Substances	Present (listed under Certain forms of natural gas and water)
Potassium hexacyanoferrate(III) (CAS 13746-66-2)	
Inventory - United States - Section 8(b) Inventory (TSCA)	Present
U.S. - FDA - CEDI Database - Cumulative Estimated Daily Intakes (CEDIs)	0.00035 mg/kg/d CEDI (175.105)

15.2. Chemical safety assessment Not required.

SECTION 16: Other information

Key or legend to abbreviations and acronyms CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS)

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 3
EUH032: Contact with acids liberates very toxic gas.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H411: Toxic to aquatic life with long lasting effects.

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. It is not to be considered a warranty or quality specification.

