

## SAFETY DATA SHEET

according to Regulation (EU) No. 453/2010

### Redox Buffer Solution 220 mV/pH 7

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#### 1. Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

**Product code** 51350060, 51350062

**Synonyms** None.

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

**Use of the Substance/Preparation** Laboratory chemicals

##### 1.3. Details of the supplier of the safety data sheet

**Company/Undertaking Identification** Mettler-Toledo AG  
ANALYTICAL  
Sonnenbergstrasse 74  
CH-8603 Schwerzenbach  
Schweiz  
Tel: +41-44-806-77-11  
Fax: +41-44-806-73-50  
Email: [ph.lab.support@mt.com](mailto:ph.lab.support@mt.com)

**1.4. Emergency telephone number** +1-800-535 50 53 (Info Trac, 24 hrs)

**Revision Date** 27.05.2013

**Version** 5

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#### 2. Hazards identification

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None.

## 2.1. Classification of the substance or mixture

NFPA Ratings (Scale 0-4):

HEALTH=1

FLAMMABILITY=0

REACTIVITY=0

SPECIAL=0

HMIS Ratings (Scale: 0=Minimal 1=Slight 2=Moderate

3=Serious 4=Severe):

HEALTH=1

FLAMMABILITY=0

REACTIVITY=0

PROT. EQUIPMENT=A (Safety Glasses)

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

**Classification according to EU Directives 67/548/EEC or 1999/45/EC** None.

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

**2.2. Label elements** none

**2.3. Other hazards** No hazards to be especially mentioned.

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## 3. Composition/information on ingredients

**Chemical characterization** Buffer solution.

Components		GHS Classification		CAS	REACH No.
Deionised Water	95% - 99%				
Potassium hexacyanoferrate (II)		Aquatic Chronic 3 H412		14459-95-1	
Potassium hexacyanoferrate (III)				13746-66-2	

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

**Hazardous impurities** None known.

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## 4. First aid measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	Move to fresh air in case of accidental inhalation of vapours or decomposition products. Consult a physician for severe cases.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
<b>Ingestion</b>	Rinse mouth. Consult a physician for severe cases.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	If you feel unwell, seek medical advice (show the label where possible).
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	None known.

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## 5. Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Use dry chemical, CO<sub>2</sub>, water spray or alcohol foam.

**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.

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## 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.

**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.

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## 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.

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## 8. Exposure controls/personal protection

### 8.1. Control parameters

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

### 8.2. Exposure controls

**Occupational exposure 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** The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Solvent-resistant gloves (butylrubber).

**Eye protection** Safety glasses with side-shields conforming to EN 166.

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<b>Skin and body protection</b>	Long sleeved clothing.
<b>Thermal hazards</b>	No special measures required.
<b>Environmental exposure controls</b>	Prevent product from entering surface water or sewage.

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## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Form</b>	Liquid.
<b>Colour</b>	Yellow.
<b>Odour</b>	None.
<b>Odour Threshold</b>	No information available.
<b>pH:</b>	7
<b>Melting point/range:</b>	No information available.
<b>Boiling point/range:</b>	No information available.
<b>Flash point:</b>	No information available.
<b>Evaporation Rate:</b>	No information available.
<b>Flammability:</b>	No information available.
<b>Explosion limits:</b>	No information available.
<b>Vapour pressure:</b>	No information available.
<b>Vapor density:</b>	No information available.
<b>Relative density:</b>	No information available.
<b>Water solubility:</b>	completely miscible
<b>Partition coefficient (n-octanol/water):</b>	No information available.
<b>Autoignition temperature:</b>	No information available.
<b>Decomposition temperature:</b>	No information available.
<b>Viscosity:</b>	No information available.
<b>Combustion/explosion hazards:</b>	not hazardous
<b>Oxidizing properties:</b>	None

### 9.2. Other information

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## 10. Stability and reactivity

<b>10.1. Reactivity</b>	No information available.
<b>10.2. Chemical stability</b>	Stable at normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	Heating can release hazardous gases.
<b>10.4. Conditions to avoid</b>	Direct heating, dirt, chemical contamination, sunlight, UV or ionizing radiation.

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<b>10.5. Incompatible materials</b>	None.
<b>10.6. Hazardous decomposition products</b>	Hydrogen cyanide (hydrocyanic acid). ( $[\text{Fe}(\text{CN})_6]^{3-} \leftrightarrow [\text{Fe}(\text{CN})_5\text{H}_2\text{O}]^{2-} + \text{CN}^-$ )

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## 11. Toxicological information

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	No data is available on the product itself. Potassium hexacyanoferrate (III) RTECS: LJ8225000 LD50/oral/mouse = 2970 mg/kg LD50/oral/rat = 1600 mg/kg
<b>Skin corrosion/irritation</b>	No skin irritation.
<b>Serious eye damage/eye irritation</b>	No eye irritation.
<b>Respiratory / Skin Sensitisation</b>	None.
<b>Carcinogenicity</b>	No data available.
<b>Germ cell mutagenicity</b>	No data available.
<b>Reproductive toxicity</b>	No data available.
<b>Specific target organ toxicity (single exposure)</b>	No data available.
<b>Specific target organ toxicity (repeated exposure)</b>	No data available.
<b>Aspiration hazard</b>	No data available.
<b>Human experience</b>	No data available.
<b>Information on likely routes of exposure</b>	dermal
<b>Other information</b>	

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## 12. Ecological information

<b>12.1. Toxicity</b>	No data is available on the product itself.
<b>12.2. Persistence and degradability</b>	Expected to be biodegradable.
<b>12.3. Bioaccumulative potential</b>	Bioaccumulation is unlikely.
<b>12.4. Mobility in soil</b>	No data available.

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

**12.6. Other adverse effects** No information available.

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### 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.

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### 14. Transport information

**ADR/RID** Not required.

**IMO** Not required.

**ICAO** Not required.

**Further Information** Not classified as dangerous in the meaning of transport regulations.

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## 15. Regulatory information

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

#### Regulatory Information

NFPA Ratings (Scale 0-4):  
HEALTH=1  
FLAMMABILITY=0  
REACTIVITY=0  
SPECIAL=0

HMIS Ratings (Scale: 0=Minimal 1=Slight 2=Moderate  
3=Serious 4=Severe):  
HEALTH=1  
FLAMMABILITY=0  
REACTIVITY=0  
PROT. EQUIPMENT=A (Safety Glasses)

#### **Potassium hexacyanoferrate (III):**

UNITED STATES REGULATORY INFORMATION  
SARA LISTED: No  
TSCA INVENTORY ITEM: Yes  
DSL: Yes  
NDSL: No

#### **Potassium hexacyanoferrate (II):**

UNITED STATES REGULATORY INFORMATION  
SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

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

#### 15.2. Chemical safety assessment

Not required.

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## 16. Other information

#### Key or legend to abbreviations and acronyms

None.

#### 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

H412: Harmful 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.

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