

## WTW Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH)

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

*Product name:*

**Redox Buffer Solution**

**Ord. No.:** 109 740

**Model:** RH 28

Use of the substance/preparation: Test solution for redox cells

*Manufacturer:*

WTW Wissenschaftlich-Technische Werkstätten GmbH, Dr.-Karl-Slevogt-Straße 1, D-82362 Weilheim, Germany, Tel.: +49(0)881 183-0, Fax.: +49(0)881 183-420

Emergency telephone:  
(001)-703-527-3887

### 2. Hazards identification

No hazardous product

### 3. Composition/information on ingredients

*Chemical characterization:* Aqueous saline solution  
*Hazardous ingredients:* Potassium hexacyanoferrate (II) and (III)

Potassium hexacyanoferrate (II)	Potassium hexacyanoferrate (III)
<i>Hazard symbols:</i> No hazardous product	<i>Hazard symbols:</i> No hazardous product
<i>R-phrases:</i> 52/53	<i>R-phrases:</i> /
<i>Content:</i> 0,41 %	<i>Content:</i> 0,53 %
<i>CAS-No.:</i> 14459-95-1	<i>CAS-No.:</i> 13746-66-2
<i>EINECS-No.:</i> 237-722-2	<i>EINECS-No.:</i> 237-323-3

Full text of R-phrases in section 16.

### 4. First aid measures

*After inhalation:* Fresh air

*After skin contact:* Wash off with plenty of water.  
Remove contaminated clothing.

*After eye contact:* Rinse out with plenty of water with the eyelid held wide open.

*After ingestion:* Drink plenty of water or physiological solution.  
Induce vomiting. Summon doctor.

# WTW Safety Data Sheet

## Identification of the substance/preparation

### Redox Buffer Solution

---

#### 5. Fire-fighting measures

<i>Suitable extinguishing media:</i>	To suit environment.
<i>Unsuitable extinguishing media:</i>	No information available.
<i>Special risks:</i>	Development of hazardous gases possible in the event of fire: Hydrogen cyanide and nitrous gases
<i>Other information:</i>	Non combustible

#### 6. Accidental release measures

<i>Personal-related precautionary measures:</i>	None
<i>Environmental-protection measures:</i>	Do not allow to enter sewerage system.
<i>Procedures for cleaning/absorption:</i>	Take up with liquid-absorbent material. Forward for disposal. Clean up affected area with water.

#### 7. Handling and storage

<i>Handling:</i>	No further requirements.
<i>Storage:</i>	Store tightly closed. Cool, but not under 10°C. Protected from light.

#### 8. Exposure controls/personal protection

<i>Specific control parameters:</i>	None
Personal protective equipment	
<i>Respiratory protection:</i>	Required when dusts are generated.
<i>Eye protection:</i>	Protective glasses
<i>Hand protection:</i>	Gloves (nitrile rubber)
<i>Industrial hygiene:</i>	Wash hands and face after working with substance. Change contaminated clothing.

# WTW Safety Data Sheet

## Identification of the substance/preparation

### Redox Buffer Solution

---

#### 9. Physical and chemical properties

<i>Form:</i> Liquid	<i>Colour:</i> Yellow	<i>Odour:</i> Odourless
<i>pH-value</i>	7,00 at 25°C	
<i>Melting temperature:</i>	about 0°C	
<i>Boiling temperature:</i>	about 100°C	
<i>Ignition temperature:</i>	not applicable	
<i>Flash point:</i>	not applicable	
<i>Explosion limite lower:</i>	not applicable	
<i>                                  upper:</i>	not applicable	
<i>Density:</i>	ca. 1 g/cm <sup>3</sup>	
<i>Solubility in water:</i>	miscible	
<i>Thermal decomposition:</i>	not available	

#### 10. Stability and reactivity

<i>Conditions to be avoided:</i>	The salts generate potassium cyanide when heated.
<i>Substances to be avoided:</i>	Acids, oxidizing agents, hydrochloric acid, nitrites, fluorine, ammonia.
<i>Hazardous decomposition products:</i>	hydrogen cyanide
<i>Further information:</i>	None

#### 11. Toxicological information

<i>Acute toxicity:</i>	After ingestion: gastrointestinal symptoms After skin and eye contact: irritations.
<i>Further toxicological information:</i>	After hydrolysis: highly toxic. The following applies to cyanogen compounds/nitriles in general: utmost caution! Release of hydrocyanic acid is possible-blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness. The solution should be handled with particular care.

#### 12. Ecological information

<i>Ecotoxic effects:</i>	Hazard for drinking water supplies. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
--------------------------	--

# WTW Safety Data Sheet

## Identification of the substance/preparation

### Redox Buffer Solution

---

#### 13. Disposal considerations

*Products:* There are no uniform regulations for the disposal of chemicals- or residues. The disposal is regulated through corresponding regional laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

*Packaging:* Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, noncontaminated packaging may be treated like household waste or recycled.

#### 14. Transport information

Not subject to transport regulations.

#### 15. Regulatory information

Labelling according to EC directives

*Symbol:* No hazardous product  
*R-phrases:* /  
*S-phrases:* /

German regulations

*Water pollution class;* WGK: 1 Slightly polluting substance  
*Storage class VCI:* 12  
*Regulation on combustible liquids;* VbF: Non combustible.  
*Other regulations:* None

#### 16. Other information

Date of issue: 22.09.2009  
Supersedes edition of 15.07.2006  
Reason for alteration: Accomodation to REACH-Regulation.

Full text of R-phrases referred to under section 3  
R: 52/53; Harmful to aquatic organisms. May cause long-term effects in the aquatic environment.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.