

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LZW9402.99 SensION Redox Standard (220 mV, 25C)

Revision date: 30.08.2017

Product code: LZW9402.99

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

##### 1.1. Product identifier

LZW9402.99 SensION Redox Standard (220 mV, 25C)

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

###### Use of the substance/mixture

Water analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

##### 1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No. 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

##### 2.2. Label elements

###### Additional advice on labelling

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

##### 2.3. Other hazards

None known.

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7732-18-5	Water			> 98 %
	231-791-2			
14459-95-1	Potassium hexacyanoferrate(II) trihydrate			< 1 %
	237-722-2			
	Aquatic Chronic 3; H412 EUH032			
14459-95-1	Potassium hexacyanoferrate(II) trihydrate			< 1 %
	237-722-2		01-2120768449-37	
	Aquatic Chronic 3; H412 EUH032			
13746-66-2	Potassium hexacyanoferrate(III)			< 1 %
	237-323-3			
	EUH032			
10028-24-7	di-Sodium hydrogen phosphate			< 1 %
	231-448-7			
7778-77-0	Potassium dihydrogen phosphate			< 0,1 %
	231-913-4		01-2119490224-41	
	Acute Tox. 4, Eye Irrit. 2; H302 H319			

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

Take off contaminated clothing and shoes immediately.  
Show this safety data sheet to the doctor in attendance.

**After inhalation**

Move to fresh air.  
If symptoms persist, call a physician.

**After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes.  
If skin irritation persists, call a physician.

**After contact with eyes**

Immediately flush eye(s) with plenty of water.  
If eye irritation persists, consult a specialist.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water.

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

No known effect.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures**

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#### 5.1. Extinguishing media

##### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

##### **Unsuitable extinguishing media**

No Limit

#### 5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

#### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

#### **Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

For personal protection see section 8.

#### 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 (e.g. sand, silica gel, acid binder, universal binder, sawdust).

#### 6.4. Reference to other sections

13. Disposal considerations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### **Advice on safe handling**

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Wash thoroughly after handling.

##### **Advice on protection against fire and explosion**

See also section 5

#### 7.2. Conditions for safe storage, including any incompatibilities

##### **Requirements for storage rooms and vessels**

Keep container tightly closed in a dry and well-ventilated place.

##### **Hints on joint storage**

None known.

#### 7.3. Specific end use(s)

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### **Additional advice on limit values**

None known.

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#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

##### Skin protection

Remove and wash contaminated clothing before re-use.

##### Respiratory protection

Provide adequate ventilation.

### SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 25 °C):	5,5-8

##### Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

##### Flammability

Solid:	not applicable
Gas:	not applicable

##### Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	no data available

##### Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature: no data available

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**Oxidizing properties**

not applicable

Vapour pressure:

no data available

Vapour pressure:

no data available

Density (at 20 °C):

1,0 g/cm<sup>3</sup>

Bulk density:

not applicable

Water solubility:

soluble

**Solubility in other solvents**

no data available

Partition coefficient:

no data available

Viscosity / dynamic:

no data available

Viscosity / kinematic:

no data available

Flow time:

no data available

Vapour density:

no data available

Evaporation rate:

no data available

Solvent separation test:

no data available

Solvent content:

no data available

**9.2. Other information**

Solid content:

not applicable

no data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

See also section 10.3

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**Further information**

None known.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No toxicology information is available.

**Acute toxicity**

No data is available on the product itself.

Health injuries are not known or expected under normal use.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
14459-95-1	Potassium hexacyanoferrate(II) trihydrate				
	oral	LD50 3613 mg/kg	rat		
14459-95-1	Potassium hexacyanoferrate(II) trihydrate				
	oral	LD50 3613 mg/kg	rat		
10028-24-7	di-Sodium hydrogen phosphate				
	oral	LD50 17000 mg/kg	rat		
7778-77-0	Potassium dihydrogen phosphate				
	oral	LD50 1700 mg/kg	mouse		
	dermal	LD50 4640 mg/kg	rabbit		

#### Irritation and corrosivity

No known effect.

#### Sensitising effects

Contains no substance or substances classified as sensitising.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

#### STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Aspiration hazard

No aspiration toxicity classification

#### Specific effects in experiment on an animal

No data is available on the product itself.

#### Additional information on tests

no data available

#### Practical experience

#### Observations relevant to classification

no data available

#### Other observations

no data available

#### Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12: Ecological information

### 12.1. Toxicity

No data is available on the product itself.

Ecological injuries are not known or expected under normal use.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
14459-95-1	Potassium hexacyanoferrate(II) trihydrate					
	Acute fish toxicity	LC50	19 mg/l	96 h		
	Acute crustacea toxicity	EC50	32 mg/l	48 h		
14459-95-1	Potassium hexacyanoferrate(II) trihydrate					
	Acute fish toxicity	LC50	19 mg/l	96 h		
	Acute crustacea toxicity	EC50	32 mg/l	48 h		
13746-66-2	Potassium hexacyanoferrate(III)					
	Acute fish toxicity	LC50	869 mg/l	96 h		
	Acute crustacea toxicity	EC50	549 mg/l	48 h		
10028-24-7	di-Sodium hydrogen phosphate					
	Acute crustacea toxicity	EC50 mg/l	1089	48 h	Daphnia magna (Water flea)	

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

No data is available on the product itself.

#### 12.4. Mobility in soil

no data available

#### 12.5. Results of PBT and vPvB assessment

no data available

#### 12.6. Other adverse effects

No known effect.

#### Further information

no data available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

In accordance with local and national regulations.

##### List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### List of Wastes Code - contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### Contaminated packaging

Dispose of as unused product.

### SECTION 14: Transport information

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#### Land transport (ADR/RID)

##### Other applicable information (land transport)

Not subject to transport regulations.

#### Inland waterways transport (ADN)

##### Other applicable information (inland waterways transport)

Not tested

#### Marine transport (IMDG)

##### Other applicable information (marine transport)

Not subject to transport regulations.

#### Air transport (ICAO-TI/IATA-DGR)

##### Other applicable information (air transport)

Not subject to transport regulations.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

no data available

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

#### Other applicable information

no data available

### SECTION 15: Regulatory information

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

##### National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Changes

Revision: 30.08.2017

Safety datasheet sections which have been updated: 2, 3, 10

Revision: 14.04.2015

Safety datasheet sections which have been updated: 1-16

Revision: 05.05.2015

Safety datasheet sections which have been updated: 2

#### Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.





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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*