

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 321 Eisen/Iron/Fer**

Revision date: 12.06.2018

Product code: LCK321

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

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**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagent for 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**

Hazard categories:

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Toxic to aquatic life with long lasting effects .

**2.2. Label elements****Regulation (EC) No. 1272/2008****Pictograms:****Hazard statements**

H411 Toxic to aquatic life with long lasting effects .

**Precautionary statements**

P273 Avoid release to the environment.

**Additional advice on labelling**

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

no data available

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### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
50-81-7	Ascorbic acid	>50 %
	200-066-2	
9003-39-8	Polyvidon 25	<40 %
	618-363-4	
69-65-8	D(-)-Mannitol	<15 %
	200-711-8	
18851-33-7	1,10-Phenanthroline chloride monohydrate	<1,5 %
	223-325-1	
	Acute Tox. 3, Aquatic Acute 1 (M-Factor = 10), Aquatic Chronic 1 (M-Factor = 10); H301 H400 H410	

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.  
Consult a physician for severe cases.

#### 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

#### 5.1. Extinguishing media

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**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 order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

**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**

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

**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.

General industrial hygiene practice.

**Advice on protection against fire and explosion**

See also section 5

**Further information on handling**

Avoid contact with skin, eyes and clothing.

**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.

Storage temperature: 2-8 °C

**Hints on joint storage**

None known.

**Further information on storage conditions**

no data available

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

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Reagent for analysis

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Additional advice on limit values

None known.

### 8.2. Exposure controls

#### Appropriate engineering controls

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

Handle in accordance with good industrial hygiene and safety practice.

#### Protective and hygiene measures

Wash hands before breaks and after work.

General industrial hygiene practice.

Smoking, eating and drinking should be prohibited in the application area.

#### 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

Avoid contact with skin, eyes and clothing.

#### Respiratory protection

Avoid breathing dust or vapour.

Provide adequate ventilation.

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

#### Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

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

Physical state:	solid (lyophilised)	
Colour:	white	
Odour:	odourless	
pH-Value:		no data available

#### Changes in the physical state

Melting point:		no data available
Initial boiling point and boiling range:		no data available
Sublimation point:		no data available
Softening point:		no data available
Pour point:		not applicable
:		no data available
Flash point:		not applicable

#### Flammability

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Solid: not applicable  
 Gas: not applicable

**Explosive properties**

no data available

Lower explosion limits: no data available

Upper explosion limits: no data available

Ignition temperature: no data available

**Auto-ignition temperature**

Solid: not applicable

Gas: not applicable

Decomposition temperature: not applicable

**Oxidizing properties**

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density: no data available

Bulk density: not applicable

Water solubility:  
(at 20 °C) completely soluble**Solubility in other solvents**

no data available

Partition coefficient: no data available

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: no data available

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: not applicable

**9.2. Other information**

Solid content: not applicable

no data available

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

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

The product is chemically stable.

**10.3. Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

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**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**Further information**

Stable under recommended storage conditions.

**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.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
50-81-7	Ascorbic acid				
	oral	LD50 mg/kg	11900	rat	RTECS
69-65-8	D(-)-Mannitol				
	oral	LD50 mg/kg	135000	Ratte	
18851-33-7	1,10-Phenanthroline chloride monohydrate				
	oral	LD50 mg/kg	132	rat	NIOSH

**Irritation and corrosivity**

No known effect.

**Sensitising effects**

No known effect.

**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 toxicology information is available.

**Additional information on tests**

None known.

**Practical experience****Observations relevant to classification**

None known.

**Other observations**

None known.

**Further information**

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

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**SECTION 12: Ecological information****12.1. Toxicity**

No information on ecology is available. No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
18851-33-7	1,10-Phenanthroline chloride monohydrate					
	Acute fish toxicity	LC50 mg/l	0,091	96 h		
	Acute crustacea toxicity	EC50 mg/l	0,072	48 h		

**12.2. Persistence and degradability**

No data is available on the product itself.

**12.3. Bioaccumulative potential**

no data available

**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 known effect.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

In accordance with local and national regulations.

Our local agencies will accept used cuvettes to ensure their proper disposal. (nur bei Küvettentest, nicht Hach und GE)

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****Land transport (ADR/RID)****Other applicable information (land transport)**

Not subject to transport regulations.

Special Provisions:375

**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.

Special Provisions: 2.10.2.7 IMDG

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

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**Other applicable information (air transport)**

Not subject to transport regulations.

Special Provisions:197

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: 1,10-Phenanthroline chloride monohydrate

**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 relevant

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): 3 - highly water contaminating

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

Revision: 12.06.2018

Safety datasheet sections which have been updated: 15

Revision: 03.04.2018

Safety datasheet sections which have been updated: 4, 8, 15, 16

Revision: 3.11.2015

Safety datasheet sections which have been updated: 2, 3, 11

Revision: 30.07.2013

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Aquatic Chronic 2; H411	Calculation method

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

H301 Toxic if swallowed.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H411 Toxic to aquatic life with long lasting effects.

**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.

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