

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 319 Cyanid/Cyanide/Cyanure, Aufschlussküvette/Digestion Cuvette; 1/4**

Revision date: 05.04.2018

Product code: LCK319-1

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

LCK 319 Cyanid/Cyanide/Cyanure, Aufschlussküvette/Digestion Cuvette; 1/4

**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**

Hazard categories:

Serious eye damage/eye irritation: Eye Dam. 1

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Causes serious eye damage.

Toxic to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

zinc sulphate, heptahydrate

**Signal word:** Danger**Pictograms:****Hazard statements**

H318

Causes serious eye damage.

H411

Toxic to aquatic life with long lasting effects.

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#### Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.

#### Additional advice on labelling

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

#### 2.3. Other hazards

None known.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
		REACH No
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
877-24-7	Potassium hydrogen phthalate	45-50 %
	212-889-4	
	Acute Tox. 4, Eye Irrit. 2; H312 H319	
7446-20-0	zinc sulphate, heptahydrate	< 25 %
	231-793-3	030-006-00-9
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1 (M-Factor = 1), Aquatic Chronic 1 (M-Factor = 1); H302 H318 H400 H410	
7773-06-0	Ammonium amidosulfonate	< 10 %
	231-871-7	
	Acute Tox. 4; H302	
7681-82-5	Sodium iodide	< 5 %
	231-679-3	
	Skin Irrit. 2, Eye Irrit. 2A, Aquatic Acute 1 (M-Factor = 1); H315 H319 H400	

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

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

Irritation and corrosion

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

Treat symptomatically.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Fire may liberate hazardous vapours.

The following may develop in event of fire: sulfur oxides.

#### **5.3. Advice for firefighters**

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

In the event of fire, wear self-contained breathing apparatus.

#### **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.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

#### **6.3. Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal.

#### **6.4. Reference to other sections**

13. Disposal considerations

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

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

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

#### **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

##### **Further information on storage conditions**

Keep locked up or in an area accessible only to qualified or authorised persons.

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

Reagent for analysis

### **SECTION 8: Exposure controls/personal protection**

#### **8.1. Control parameters**

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#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7773-06-0	Ammonium sulphamidate	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL

#### 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.

##### Protective and hygiene measures

Wash hands before breaks and at the end of workday.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

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

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

## SECTION 9: Physical and chemical properties

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

Physical state:	solid (lyophilised)	
Colour:	light yellow	
Odour:	odourless	
pH-Value (at 20 °C):		4

#### Changes in the physical state

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

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Ignition temperature:	no data available
<b>Auto-ignition temperature</b>	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	no data available
<b>Oxidizing properties</b>	
not applicable	
Vapour pressure:	not applicable
Density:	no data available
Bulk density:	no data available
Water solubility: (at 20 °C)	soluble
<b>Solubility in other solvents</b>	
no data available	
Partition coefficient:	not applicable
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable
Vapour density:	not applicable
Evaporation rate:	not applicable
Solvent separation test:	not applicable
Solvent content:	not applicable

**9.2. Other information**

Solid content:	no data available
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**SECTION 10: Stability and reactivity****10.1. Reactivity**

Reactivity Hazard: Oxidizing agents

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Oxidizing agents

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

Metals

**10.6. Hazardous decomposition products**

Under fire conditions: Sulphur oxides

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

No toxicology information is available.

**Acute toxicity**

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Based on available data, the classification criteria are not met.  
No data is available on the product itself.

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
877-24-7	Potassium hydrogen phthalate					
	oral	LD50 3200 mg/kg	rat	RTECS		
	dermal	LD50 >1000 mg/kg	guinea pig			
7446-20-0	zinc sulphate, heptahydrate					
	oral	LD50 1260 mg/kg	@N11.0018550	RTECS		
7773-06-0	Ammonium amidosulfonate					
	oral	LD50 2000 mg/kg	rat			
7681-82-5	Sodium iodide					
	oral	LD50 4340 mg/kg	rat			

#### Irritation and corrosivity

Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### Sensitising effects

Based on available data, the classification criteria are not met.

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

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Specific effects in experiment on an animal

No toxicology information is available.

#### Additional information on tests

None known.

#### Further information

Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No information on ecology is available.

Do not flush into surface water or sanitary sewer system.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7446-20-0	zinc sulphate, heptahydrate					
	Acute fish toxicity	LC50	0,11 mg/l	96 h	Oncorhynchus mykiss (rainbow trout)	Ecotox
7773-06-0	Ammonium amidosulfonate					
	Acute fish toxicity	LC50	203 mg/l	96 h		Ecotox
7681-82-5	Sodium iodide					
	Acute fish toxicity	LC50	860 mg/l	96 h		
	Acute crustacea toxicity	EC50	0,17 mg/l	48 h		

**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.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
877-24-7	Potassium hydrogen phthalate	-2,73

**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.

**SECTION 13: Disposal considerations**
**13.1. Waste treatment methods**
**Advice on disposal**

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

**Waste disposal number of waste from 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

**Waste disposal number of 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

**Waste disposal number of 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

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

Not classified as dangerous in the meaning of transport regulations.

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Special Provisions: 375

#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

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

Not classified as dangerous in the meaning of transport regulations.

Special Provisions: 375

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

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

Not classified as dangerous in the meaning of transport regulations.

Special Provisions: 197

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: zinc sulphate, heptahydrate

#### 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

#### Other applicable information

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): 2 - clearly 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 Date 05.04.2018

Safety datasheet sections which have been updated: 9

Revision Date 23.04.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 23.01.2015

Safety datasheet sections which have been updated: 14

Revision: 8.04.2014

Safety datasheet sections which have been updated: 2, 4, 6, 8, 10, 11, 12

Revision: 17.09.2014

Safety datasheet sections which have been updated: 7, 14

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

H302 Harmful if swallowed.

H312 Harmful in contact with skin.



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H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
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 present level of our knowledge. It does not, however, give assurances 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.)*

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

LCK 319 Cyanid/Cyanide/Cyanure, Indikator Küvette/Indicator Cuvette; 2/4

**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**

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**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	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			> 97 %
	231-791-2			
110-15-6	Succinic acid			< 0,5 %
	203-740-4			
	Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H315 H318 H335			
7697-37-2	Nitric acid ... %			< 0,2 %
	231-714-2	007-004-00-1		
	Ox. Liq. 2, Skin Corr. 1A; H272 H314 EUH071			
10377-60-3	Magnesium nitrate			< 0,1%
	233-826-7			
	Ox. Liq. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H272 H315 H319 H335			

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 all contaminated clothing immediately.

**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****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

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#### **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**

For personal protection see section 8.

Only qualified personnel equipped with suitable protective equipment may intervene.

Immediately evacuate personnel to safe areas.

#### **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.

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 in a dry, cool place.

Storage temperature: 2-8 °C

##### **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**

##### **Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL

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#### Additional advice on limit values

None known.

#### 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.

##### Environmental exposure controls

Should not be released into the environment.

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	blue
Odour:	odourless
pH-Value (at 20 °C):	7

#### Changes in the physical state

Melting point:	- 32 °C
Initial boiling point and boiling range:	no data available
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

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**Auto-ignition temperature**

Solid: not applicable  
Gas: not applicable

Decomposition temperature: no data available

**Oxidizing properties**

not applicable

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1 g/cm<sup>3</sup>

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: 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**

Oxidizing agents  
Alkali metals  
Alkaline earth metals  
Metals

**10.6. Hazardous decomposition products**

Nitrous acid and other nitrosating agents

**Further information**

None known.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

Based on available data, the classification criteria are not met.  
No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
110-15-6	Succinic acid				
	oral	LD50 mg/kg	2260	Ratte	
10377-60-3	Magnesium nitrate				
	oral	LD50 mg/kg	5440	rat	

#### Irritation and corrosivity

Based on available data, the classification criteria are not met.  
No known effect.

#### Sensitising effects

Based on available data, the classification criteria are not met.  
Contains no substance or substances classified as sensitising.

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

Based on available data, the classification criteria are not met.  
Contains no ingredient listed as a carcinogen

#### STOT-single exposure

Based on available data, the classification criteria are not met.  
The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.  
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Aspiration hazard

Based on available data, the classification criteria are not met.  
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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Indikator Küvette/Indicator Cuvette; 2/4

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Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
110-15-6	Succinic acid					
	Acute crustacea toxicity	EC50	374 mg/l	48 h		
7697-37-2	Nitric acid ... %					
	Acute fish toxicity	LC50	72 mg/l	96 h	Gambusia affinis	IUCLID

#### 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.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
110-15-6	Succinic acid	-0,59
7697-37-2	Nitric acid ... %	-0,21

#### 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

##### Advice on disposal

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

##### Waste disposal number of waste from 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

##### Waste disposal number of 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

##### Waste disposal number of 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

#### Land transport (ADR/RID)



## Safety Data Sheet

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### LCK 319 Cyanid/Cyanide/Cyanure, Indikator Küvette/Indicator Cuvette; 2/4

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#### Other applicable information (land transport)

Not classified as dangerous in the meaning of transport regulations.

#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

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

Not classified as dangerous in the meaning of transport regulations.

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

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

Not classified as dangerous in the meaning of transport regulations.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:      yes



#### 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

#### Other applicable information

Not relevant

### SECTION 15: Regulatory information

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

##### EU regulatory information

Information according to 2012/18/EU (SEVESO III):      Not subject to 2012/18/EU (SEVESO III)

##### National regulatory information

Water contaminating class (D):      - - not 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 Date 05.04.2018

Safety datasheet sections which have been updated: 2, 3, 4, 6, 7, 8, 11, 15

Revision Date 23.04.2015

Safety datasheet sections which have been updated: 2

Revision: 26.01.2015

Safety datasheet sections which have been updated: 14

This data sheet contains changes from the previous version in section(s): 9

Revision: 8.04.2014; Safety datasheet sections which have been updated: 2

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Indikator Küvette/Indicator Cuvette; 2/4

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

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances 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.)*

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

Revision date: 05.04.2018

Product code: LCK319-3

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

### 1.1. Product identifier

LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

### 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

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

### 2.3. Other hazards

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

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#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			> 97 %
	231-791-2			
110-15-6	Succinic acid			< 0,5 %
	203-740-4			
	Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H315 H318 H335			
7697-37-2	Nitric acid ... %			< 0,2 %
	231-714-2	007-004-00-1		
	Ox. Liq. 2, Skin Corr. 1A; H272 H314 EUH071			
10377-60-3	Magnesium nitrate			< 0,1%
	233-826-7			
	Ox. Liq. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H272 H315 H319 H335			

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 all contaminated clothing immediately.

###### 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

##### 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.

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

Fire may liberate hazardous vapours.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

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#### **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**

For personal protection see section 8.

Only qualified personnel equipped with suitable protective equipment may intervene.

Immediately evacuate personnel to safe areas.

#### **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.

General industrial hygiene practice.

##### **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 in a dry, cool place.

Storage temperature: 2-8 °C

##### **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**

##### **Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL

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

None known.

#### **8.2. Exposure controls**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

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#### 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:	blue
Odour:	odourless
pH-Value (at 20 °C):	7

#### Changes in the physical state

Melting point:	- 32 °C
Initial boiling point and boiling range:	no data available
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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**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4**

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**Oxidizing properties**

not applicable

Vapour pressure:

no data available

Vapour pressure:

no data available

Density (at 20 °C):

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

Bulk density:

not applicable

Water solubility:

completely soluble

(at 20 °C)

**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**

Oxidizing agents

Alkali metals

Alkaline earth metals

Metals

**10.6. Hazardous decomposition products**

Nitrous acid and other nitrosating agents

**Further information**

None known.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4**

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Based on available data, the classification criteria are not met.  
No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
110-15-6	Succinic acid				
	oral	LD50 mg/kg	2260	Ratte	
10377-60-3	Magnesium nitrate				
	oral	LD50 mg/kg	5440	rat	

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.  
No known effect.

**Sensitising effects**

Based on available data, the classification criteria are not met.  
Contains no substance or substances classified as sensitising.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.  
Contains no ingredient listed as a carcinogen

**STOT-single exposure**

Based on available data, the classification criteria are not met.  
The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.  
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**

Based on available data, the classification criteria are not met.  
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.  
Do not flush into surface water or sanitary sewer system.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
110-15-6	Succinic acid					
	Acute crustacea toxicity	EC50	374 mg/l	48 h		
7697-37-2	Nitric acid ... %					
	Acute fish toxicity	LC50	72 mg/l	96 h	Gambusia affinis	IUCLID

#### 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.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
110-15-6	Succinic acid	-0,59
7697-37-2	Nitric acid ... %	-0,21

#### 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

##### Advice on disposal

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

##### Waste disposal number of waste from 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

##### Waste disposal number of 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

##### Waste disposal number of 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

#### Land transport (ADR/RID)

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

Not classified as dangerous in the meaning of transport regulations.

## Safety Data Sheet

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### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

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#### Inland waterways transport (ADN)

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

Not tested

#### Marine transport (IMDG)

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

Not classified as dangerous in the meaning of transport regulations.

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

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

Not classified as dangerous in the meaning of transport regulations.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:        yes



#### 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

#### Other applicable information

Not relevant

### SECTION 15: Regulatory information

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

##### EU regulatory information

Information according to 2012/18/EU        Not subject to 2012/18/EU (SEVESO III)  
(SEVESO III):

##### National regulatory information

Water contaminating class (D):        -- not 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 Date 05.04.2018

Safety datasheet sections which have been updated: 2, 3, 4, 5, 6, 7, 8, 11, 15

Revision Date 23.04.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 26.01.2015

Safety datasheet sections which have been updated: 14

This data sheet contains changes from the previous version in section(s): 9

Revision: 8.04.2014; Safety datasheet sections which have been updated: 2

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

H272                      May intensify fire; oxidiser.

H314                      Causes severe skin burns and eye damage.

H315                      Causes skin irritation.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Nullküvette/Zero Cuvette; 3/4

Revision date: 05.04.2018

Product code: LCK319-3

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H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances 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.)*

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 319 Cyanid/Cyanide/Cyanure, Vergleichslösung/Reference Cuvette; 4/4**

Revision date: 05.04.2018

Product code: LCK319-4

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

LCK 319 Cyanid/Cyanide/Cyanure, Vergleichslösung/Reference Cuvette; 4/4

**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**

Hazard categories:

Serious eye damage/eye irritation: Eye Irrit. 2

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes serious eye irritation.

Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

zinc sulphate, heptahydrate

**Signal word:** Warning**Pictograms:****Hazard statements**

H319

Causes serious eye irritation.

H412

Harmful to aquatic life with long lasting effects.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Vergleichslösung/Reference Cuvette; 4/4

Revision date: 05.04.2018

Product code: LCK319-4

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#### Precautionary statements

P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P337+P313 If eye irritation persists: Get medical advice/attention.

#### Additional advice on labelling

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

#### 2.3. Other hazards

None known.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			< 95 %
	231-791-2			
877-24-7	Potassium hydrogen phthalate			< 3 %
	212-889-4			
	Acute Tox. 4, Eye Irrit. 2; H312 H319			
7446-20-0	zinc sulphate, heptahydrate			< 2 %
	231-793-3	030-006-00-9		
	Acute Tox. 4, Eye Dam. 1, Aquatic Acute 1 (M-Factor = 1), Aquatic Chronic 1 (M-Factor = 1); H302 H318 H400 H410			
7773-06-0	Ammonium amidosulfonate			< 1 %
	231-871-7			
	Acute Tox. 4; H302			
7681-82-5	Sodium iodide			< 0,5 %
	231-679-3			
	Skin Irrit. 2, Eye Irrit. 2A, Aquatic Acute 1 (M-Factor = 1); H315 H319 H400			

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

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 319 Cyanid/Cyanide/Cyanure, Vergleichslösung/Reference Cuvette; 4/4

Revision date: 05.04.2018

Product code: LCK319-4

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#### After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

May cause eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Fire may liberate hazardous vapours.

The following may develop in event of fire: sulfur oxides.

### 5.3. Advice for firefighters

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

In the event of fire, wear self-contained breathing apparatus.

#### 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.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

### 6.4. Reference to other sections

13. Disposal considerations

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Use only in well-ventilated areas.

### 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

#### Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

### 7.3. Specific end use(s)

Reagent for analysis

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7773-06-0	Ammonium sulphamidate	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL

#### 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.

##### Protective and hygiene measures

Wash hands before breaks and at the end of workday.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

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

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid	
Colour:	green	
Odour:	odourless	
pH-Value (at 20 °C):		7

#### Changes in the physical state

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

#### Flammability

Solid:	not applicable
Gas:	not applicable

#### Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

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**Auto-ignition temperature**

Solid: not applicable  
Gas: not applicable

Decomposition temperature: no data available

**Oxidizing properties**

not applicable

Vapour pressure: no data available

Density (at 20 °C): 1 g/cm<sup>3</sup>

Bulk density: not applicable

Water solubility:  
(at 20 °C) 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

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

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

**10.4. Conditions to avoid**

Heat, flames and sparks.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**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.



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CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
877-24-7	Potassium hydrogen phthalate					
	oral	LD50 mg/kg	3200	rat	RTECS	
	dermal	LD50 mg/kg	>1000	guinea pig		
7446-20-0	zinc sulphate, heptahydrate					
	oral	LD50 mg/kg	1260	@N11.0018550	RTECS	
7773-06-0	Ammonium amidosulfonate					
	oral	LD50 mg/kg	2000	rat		
7681-82-5	Sodium iodide					
	oral	LD50 mg/kg	4340	rat		

**Irritation and corrosivity**

Severe eye irritation

**Sensitising effects**

No known effect.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No toxicology information is available.

**Additional information on tests**

None known.

**Further information**

Handle in accordance with good industrial hygiene and safety practice.

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

No information on ecology is available.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method
7446-20-0	zinc sulphate, heptahydrate						
	Acute fish toxicity	LC50	0,11 mg/l	96 h	Oncorhynchus mykiss (rainbow trout)	Ecotox	
7773-06-0	Ammonium amidosulfonate						
	Acute fish toxicity	LC50	203 mg/l	96 h		Ecotox	
7681-82-5	Sodium iodide						
	Acute fish toxicity	LC50	860 mg/l	96 h			
	Acute crustacea toxicity	EC50 mg/l	0,17	48 h			

**12.2. Persistence and degradability**

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No data is available on the product itself.

#### **12.3. Bioaccumulative potential**

No data is available on the product itself.

#### **Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
877-24-7	Potassium hydrogen phthalate	-2,73

#### **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.

## SECTION 13: Disposal considerations

### **13.1. Waste treatment methods**

#### **Advice on disposal**

In accordance with local and national regulations. Our local agencies will accept used cuvettes to ensure their proper disposal.

#### **Waste disposal number of waste from 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

#### **Waste disposal number of 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

#### **Waste disposal number of 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

## SECTION 14: Transport information

### **Land transport (ADR/RID)**

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

Not classified as dangerous in the meaning of transport regulations.

### **Inland waterways transport (ADN)**

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

Not tested

### **Marine transport (IMDG)**

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

Not classified as dangerous in the meaning of transport regulations.

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

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

Not classified as dangerous in the meaning of transport regulations.

### **14.5. Environmental hazards**

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ENVIRONMENTALLY HAZARDOUS: yes

**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

**Other applicable information**

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): 1 - slightly 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 Date 05.04.2018

Revision Date 23.04.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 26.01.2015

Safety datasheet sections which have been updated: 14

This data sheet contains changes from the previous version in section(s): 9

Revision: 8.04.2014

Safety datasheet sections which have been updated: 2, 4, 6, 8, 10, 11, 12

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

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances 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.)*