

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, Sample cuvette, 1/4**

Revision date: 10.07.2018

Product code: LCK238-1

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

LCK 238 LatoN, Sample 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:

Substance or mixture corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

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

sulphuric acid ... %

phosphoric acid; orthophosphoric acid ... %

**Signal word:**

Danger

**Pictograms:**

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### Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
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

no data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7664-93-9	sulphuric acid ... %			55-60 %
	231-639-5	016-020-00-8		
	Skin Corr. 1A; H314			
7664-38-2	phosphoric acid; orthophosphoric acid ... %			30-35 %
	231-633-2	015-011-00-6		
	Skin Corr. 1B; H314			
7732-18-5	Water			5-10 %
	231-791-2			

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.  
Consult a physician. 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. Consult a physician. Show this safety data sheet to the doctor in attendance.

#### After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

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#### After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting.  
Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Irritation and corrosion, Cough, Shortness of breath, Spasm.

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

#### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

#### 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.  
Do not breathe vapours, mist or gas.

#### 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

Use only in well-ventilated areas.  
Avoid contact with skin and eyes.  
Do not breathe vapours/dust.

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

None known.  
See also section 5

##### Further information on handling

Observe label precautions.  
Avoid contact with skin, eyes and clothing.

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

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#### Requirements for storage rooms and vessels

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

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

Laboratory chemicals  
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
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL
7664-93-9	Sulphuric acid (mist)	-	0.05		TWA (8 h)	WEL

#### 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.

##### 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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

##### Skin protection

Remove and wash contaminated clothing before re-use.

##### Respiratory protection

In the case of vapour formation use a respirator with an approved filter.

Recommended Filter type: ABEK-filter

##### 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: colourless  
Odour: odourless  
pH-Value (at 20 °C): < 1

#### Changes in the physical state

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

**Flammability**

Solid:	no data available
Gas:	no data available

**Explosive properties**

no data available

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: no data available

**Auto-ignition temperature**

Solid: no data available

Gas: no data available

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,78 g/cm<sup>3</sup>

Bulk density: no data available

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: no data available

no data available

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

Corrosive to metals

**10.2. Chemical stability**

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The product is chemically stable.

#### **10.3. Possibility of hazardous reactions**

To avoid thermal decomposition, do not overheat.

#### **10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat. Above 300 °C, hazardous fumes may be released.

#### **10.5. Incompatible materials**

Metals

#### **10.6. Hazardous decomposition products**

Sulphur trioxide

#### **Further information**

very reactive

## 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
7664-38-2	phosphoric acid; orthophosphoric acid ... %				
	dermal	LD50 mg/kg	2740	rabbit	IUCLID

#### **Irritation and corrosivity**

Causes skin and eye burns.

#### **Sensitising effects**

No sensitisation responses were observed.

#### **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**

None known.

#### **Additional information on tests**

None known.

#### **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**

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
7664-38-2	phosphoric acid; orthophosphoric acid ... %					
	Acute fish toxicity	LC50	138 mg/l	96 h	Gambusia affinis	

**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 data available

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

Our local agencies will accept used cuvettes to ensure their proper disposal.  
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

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number:**

UN 3316

**14.2. UN proper shipping name:**

Chemical kit

**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

II

Hazard label:

9



Classification code:

M11

Special Provisions:

251 340

Limited quantity:

SP251

Excepted quantity:

SP340

Transport category:

2

Hazard No:

-

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Tunnel restriction code: E

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)**

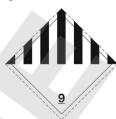
**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Marine pollutant: —  
 Special Provisions: 251, 340  
 Limited quantity: See SP251  
 Excepted quantity: SP340  
 EmS: F-A, S-P

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

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Special Provisions: A44 A163  
 Limited quantity Passenger: 1 kg  
 Passenger LQ: Y960  
 Excepted quantity: E0  
 IATA-packing instructions - Passenger: 960  
 IATA-max. quantity - Passenger: 10 kg  
 IATA-packing instructions - Cargo: 960  
 IATA-max. quantity - Cargo: 10 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Use personal protective equipment.

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

Not relevant

**Other applicable information**

These transport data apply to the entire pack

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



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Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 1 - slightly water contaminating

#### Additional information

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

#### 15.2. Chemical safety assessment

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

### SECTION 16: Other information

#### Changes

Revision: 10.07.2018

Safety datasheet sections which have been updated: 8

Revision: 26.06.2018

Safety datasheet sections which have been updated: 8, 15

Revision: 25.04.2018

Safety datasheet sections which have been updated: 3, 8, 16

Revision Date 07.03.2017

Safety datasheet sections which have been updated: 2, 14, 15

Revision: 23.06.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 21.08.2013

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

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1A; H314	On basis of test data
Eye Dam. 1; H318	Calculation method

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

H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.  
 H318 Causes serious eye damage.

#### 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.)*

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

LCK 238 LatoN, LCK 238 A; 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**

Hazard categories:

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Causes severe skin burns and eye damage.

Causes serious eye damage.

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

sodium hydroxide; caustic soda

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

H314

Causes severe skin burns and eye damage.

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#### Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 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

no data available

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7732-18-5	Water			>98 %
	231-791-2			
1310-73-2	Sodium hydroxide; caustic soda			<2 %
	215-185-5	011-002-00-6	01-2119457892-27	
	Skin Corr. 1A; H314			
7757-79-1	Potassium nitrate			<0,1 %
	231-818-8			
	Ox. Sol. 3, Eye Irrit. 2; H272 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. Consult a physician.

##### After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

##### After ingestion

Clean mouth with water and drink afterwards plenty of water.  
 If symptoms persist, call a physician.

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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. The product itself does not burn.

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

#### **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**

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**

Use only in well-ventilated areas.

Avoid contact with skin, eyes and clothing.

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

None known.

See also section 5

##### **Further information on handling**

Observe label precautions.

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

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

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

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

None known.

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

Reagent for analysis

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**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
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	WEL

**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.

**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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

In the case of vapour formation use a respirator with an approved filter.

Recommended Filter type: P2

**Environmental exposure controls**

Prevent further leakage or spillage if safe to do so.

**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 20 °C):		14

**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:	no data available
:	no data available
Flash point:	no data available

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**Flammability**

Solid: no data available  
 Gas: no data available

**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: no data available

Gas: no data available

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,03 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: no data available

no data available

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

Corrosive to metals

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Acids

**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.

**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
7757-79-1	Potassium nitrate					
	oral	LD50 mg/kg	3015	Ratte		

**Irritation and corrosivity**

Causes skin and eye burns.

**Sensitising effects**

No sensitisation responses were observed.

**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.

**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.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method
1310-73-2	Sodium hydroxide; caustic soda						
	Acute fish toxicity	LC50 mg/l	45,4	96 h	Onchorhynchus mykiss		
7757-79-1	Potassium nitrate						
	Acute fish toxicity	LC50	191 mg/l	96 h	Poecilia reticulata		
	Acute crustacea toxicity	EC50	490 mg/l	48 h	Daphnia magna		

**12.2. Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 A; 2/4**

Revision date: 30.04.2019

Product code: LCK238-2

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**12.3. Bioaccumulative potential**

No data is available on the product itself.

**12.4. Mobility in soil**

No data is available on the product itself.

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

No data is available on the product itself.

**12.6. Other adverse effects**

No data is available on the product itself.

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

Our local agencies will accept used cuvettes to ensure their proper disposal.

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**

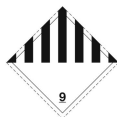
160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Contaminated packaging**

Dispose of as unused product.

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

<b>14.1. UN number:</b>	UN 3316
<b>14.2. UN proper shipping name:</b>	Chemical kit
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	II
Hazard label:	9



Classification code:	M11
Special Provisions:	251 340
Limited quantity:	SP251
Excepted quantity:	SP340
Transport category:	2
Hazard No:	-
Tunnel restriction code:	E

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	UN 3316
<b>14.2. UN proper shipping name:</b>	CHEMICAL KIT



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 A; 2/4**

Revision date: 30.04.2019

Product code: LCK238-2

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**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

II

Hazard label:

9



Marine pollutant:

-

Special Provisions:

251, 340

Limited quantity:

See SP251

Excepted quantity:

SP340

EmS:

F-A, S-P

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number:**

UN 3316

**14.2. UN proper shipping name:**

CHEMICAL KIT

**14.3. Transport hazard class(es):**

9

**14.4. Packing group:**

II

Hazard label:

9



Special Provisions:

A44 A163

Limited quantity Passenger:

1 kg

Passenger LQ:

Y960

Excepted quantity:

E0

IATA-packing instructions - Passenger:

960

IATA-max. quantity - Passenger:

10 kg

IATA-packing instructions - Cargo:

960

IATA-max. quantity - Cargo:

10 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

N06.00116010

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

Not relevant

**Other applicable information**

These transport data apply to the entire pack

**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): -- not water contaminating

**Additional information**

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

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 A; 2/4**

Revision date: 30.04.2019

Product code: LCK238-2

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**Changes**

Revision: 30.04.2019

Safety datasheet sections which have been updated: 2, 15

Revision: 25.04.2018

Safety datasheet sections which have been updated: 3, 4, 7

Revision Date 07.03.2017

Safety datasheet sections which have been updated: 2, 14, 15

Revision: 19.05.2015

Safety datasheet sections which have been updated: 11

Revision: 27.08.2013

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

Classification	Classification procedure
Skin Corr. 1; H314	Calculation method
Eye Dam. 1; H318	Calculation method

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

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

**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.)*

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 B; 3/4**

Revision date: 25.04.2018

Product code: LCK238-3

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

LCK 238 LatoN, LCK 238 B; 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**

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Reproductive toxicity: Repr. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May damage fertility. May damage the unborn child.

May cause respiratory irritation.

**2.2. Label elements****Regulation (EC) No. 1272/2008**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 B; 3/4**

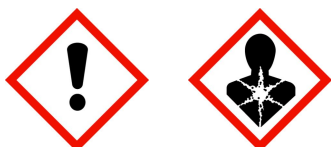
Revision date: 25.04.2018

Product code: LCK238-3

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**Hazard components for labelling**

dipotassium peroxodisulphate; potassium persulphate  
Sodium metaborate  
disodium tetraborate, anhydrous; boric acid, disodium salt

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

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.  
H360FD May damage fertility. May damage the unborn child.

**Precautionary statements**

P201 Obtain special instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P342+P311 If experiencing respiratory symptoms: 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**

no data available

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7727-21-1	dipotassium peroxodisulphate; potassium persulphate			65 %
	231-781-8	016-061-00-1		
	Ox. Sol. 3, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3; H272 H302 H315 H319 H334 H317 H335			
7775-19-1	Sodium metaborate			<20 %
	231-891-6			
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			
1330-43-4	disodium tetraborate, anhydrous; boric acid, disodium salt			15 - < 20 %
	215-540-4	005-011-00-4	01-2119490790-32	
	Repr. 1B; H360FD			

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 B; 3/4**

Revision date: 25.04.2018

Product code: LCK238-3

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**Further Information**

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).  
disodium tetraborate, anhydrous; boric acid, disodium salt

**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. If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.  
Induce vomiting, but only if victim is fully conscious.

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

Irritation and corrosion, Cough, Shortness of breath, Spasm.

**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

**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.

**6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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### LCK 238 LatoN, LCK 238 B; 3/4

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#### **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**

Use only in well-ventilated areas.  
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

##### **Further information on handling**

Observe label precautions.

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

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

Keep in a dry, cool place.

#### **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
7727-21-1	(OLD) Dipotassium peroxodisulphate (measured as [S208])	-	1		TWA (8 h)	OES
1330-43-4	Disodium tetraborate, anhydrous	-	1		TWA (8 h)	WEL

##### **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.

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

##### **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:

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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  
Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

#### 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

#### 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:	tablet	
Colour:	white	
Odour:	odourless	
pH-Value (at 20 °C):		5,5 (5 % solution)

#### Changes in the physical state

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

#### Flammability

Solid:	no data available
Gas:	no data available

#### 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:	no data available
Gas:	no data available

Decomposition temperature:	no data available
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#### Oxidizing properties

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available
Density:	no data available
Bulk density:	no data available
Water solubility: (at 20 °C)	completely soluble

## Safety Data Sheet

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**LCK 238 LatoN, LCK 238 B; 3/4**

Revision date: 25.04.2018

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**Solubility in other solvents**

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:

no data available

Solvent content:

no data available

**9.2. Other information**

Solid content:

no data available

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**

Reacts with the following substances: Acids, Strong oxidizing agents, Heavy metal salts

**10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Under fire 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.

**ATEmix calculated**

ATE (oral) 1261,0 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7727-21-1	dipotassium peroxodisulphate; potassium persulphate				
	oral	LD50 mg/kg	802	Rat	GESTIS
7775-19-1	Sodium metatobate				
	oral	LD50 mg/kg	2330	rat	



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**LCK 238 LatoN, LCK 238 B; 3/4**

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**Irritation and corrosivity**

May cause eye and skin irritation.

**Sensitising effects**

May cause sensitisation by inhalation and skin contact.

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

May impair fertility. May cause harm to the unborn child.

**STOT-single exposure**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**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.

**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**

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7727-21-1	dipotassium peroxodisulphate; potassium persulphate					
	Acute fish toxicity	LC50	100 mg/l	96 h	Poecilia reticulata	Hommel

**12.2. Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**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 data available

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

Our local agencies will accept used cuvettes to ensure their proper disposal.

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

## Safety Data Sheet

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**LCK 238 LatoN, LCK 238 B; 3/4**

Revision date: 25.04.2018

Product code: LCK238-3

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**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

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

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** Chemical kit  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Classification code: M11  
 Special Provisions: 251 340  
 Limited quantity: SP251  
 Excepted quantity: SP340  
 Transport category: 2  
 Hazard No: -  
 Tunnel restriction code: E

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)**

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Marine pollutant: -  
 Special Provisions: 251, 340  
 Limited quantity: See SP251  
 Excepted quantity: SP340  
 EmS: F-A, S-P

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

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 B; 3/4**

Revision date: 25.04.2018

Product code: LCK238-3

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Special Provisions:	A44 A163	
Limited quantity Passenger:	1 kg	
Passenger LQ:	Y960	
Excepted quantity:	E0	
IATA-packing instructions - Passenger:		960
IATA-max. quantity - Passenger:		10 kg
IATA-packing instructions - Cargo:		960
IATA-max. quantity - Cargo:		10 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

N06.00116010

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

Not relevant

**Other applicable information**

These transport data apply to the entire pack

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

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):  
disodium tetraborate, anhydrous; boric acid, disodium salt

Restrictions on use (REACH, annex XVII):

Entry 30: disodium tetraborate, anhydrous; boric acid, disodium salt

**Additional information**

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

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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: 25.04.2018

Safety datasheet sections which have been updated: 3, 15, 16

Revision Date 07.03.2017

Safety datasheet sections which have been updated: 7, 14, 15

Revision: 07.04.2016

Safety datasheet sections which have been updated: 3

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### LCK 238 LatoN, LCK 238 B; 3/4

Revision date: 25.04.2018

Product code: LCK238-3

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Revision: 13.01.2016

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

Revision: 23.06.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 29.08.2013

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

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method
Repr. 1B; H360FD	Calculation method
STOT SE 3; H335	Calculation method

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

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled .
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.

#### 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.)*

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**LCK 238 LatoN, LCK 238 D; 4/4**

Revision date: 25.04.2018

Product code: LCK238-5

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

LCK 238 LatoN, LCK 238 D; 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:

Flammable liquid: Flam. Liq. 3

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Flammable liquid and vapour.

Causes serious eye irritation.

May cause drowsiness or dizziness.

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

propan-2-ol; isopropyl alcohol; isopropanol

**Signal word:** Warning**Pictograms:**

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#### Hazard statements

H226 Flammable liquid and vapour.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.

#### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 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.  
 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

no data available

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7732-18-5	Water			>75 %
	231-791-2			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			20 - < 25 %
	200-661-7	603-117-00-0	01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
576-26-1	2,6-xylenol			<1 %
	209-400-1	604-006-00-X		
	Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, Aquatic Chronic 2; H311 H301 H314 H411			
123-92-2	isopentyl acetate			<1 %
	204-662-3	607-130-00-2		
	Flam. Liq. 3; H226 EUH066			

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.  
 Take off all contaminated clothing immediately.

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If skin irritation persists, call a physician.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Consult a physician. Show this safety data sheet to the doctor in attendance.

**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**

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

**Unsuitable extinguishing media**

None known.

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

**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.

Do not breathe vapours, mist or gas.

**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**

Use only in well-ventilated areas.

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

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**Further information on handling**

Observe label precautions.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

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

**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
123-92-2	Pentyl acetates: Isopentyl acetate	50	270		TWA (8 h)	WEL
		100	541		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

**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.

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

**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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

Provide adequate ventilation.

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type:

ABEK-filter



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**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state: liquid  
 Colour: colourless  
 Odour: aromatic

**Test method**

pH-Value (at 20 °C): 5,5

**Changes in the physical state**

Melting point: not applicable

Initial boiling point and boiling range: 82 °C

Sublimation point: not applicable

Softening point: no data available

Pour point: no data available

: no data available

Flash point: 26 °C DIN 51755

Sustaining combustion: No data available

**Flammability**

Solid: no data available

Gas: no data available

**Explosive properties**

no data available

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: no data available

**Auto-ignition temperature**

Solid: no data available

Gas: no data available

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure: no data available

(at 20 °C)

Vapour pressure: no data available

Density (at 20 °C): 0,95 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

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Solvent separation test:

no data available

Solvent content:

no data available

**9.2. Other information**

Solid content:

no data available

no data available

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

None known.

**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**

No dangerous reaction known under conditions of normal use.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if used 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
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 mg/kg	5045	rat	RTECS
	dermal	LD50 mg/kg	12800	rabbit	
	inhalation (4 h) vapour	LC50	46,5 mg/l	rat	
576-26-1	2,6-xylenol				
	oral	LD50 mg/kg	296	Rat	
	dermal	LD50 mg/kg	1000	Rabbit	

**Irritation and corrosivity**

May cause eye irritation.

**Sensitising effects**

No sensitisation responses were observed.

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

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

H336 - May cause drowsiness or dizziness.

**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**

None known.

**Additional information on tests**

None known.

**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**

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	1400	96 h	Lepomis macrochirus (Bluegill sunfish)	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Pseudokirchneriella subcapitata (green algae)	IUCLID
	Acute crustacea toxicity	EC50 mg/l	13299	48 h	Daphnia magna (Water flea)	UICLID
576-26-1	2,6-xylenol					
	Acute fish toxicity	LC50	22 mg/l	96 h	Pimephales promelas	
	Acute crustacea toxicity	EC50	11,2 mg/l	48 h	Daphnia magna	

**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
576-26-1	2,6-xylenol	2,36

**12.4. Mobility in soil**

No data is available on the product itself.

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

No data is available on the product itself.

**12.6. Other adverse effects**

No data is available on the product itself.

**SECTION 13: Disposal considerations**

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**13.1. Waste treatment methods****Disposal recommendations**

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

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

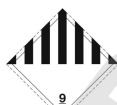
160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**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

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

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** Chemical kit  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Classification code: M11  
 Special Provisions: 251 340  
 Limited quantity: SP251  
 Excepted quantity: SP340  
 Transport category: 2  
 Hazard No: -  
 Tunnel restriction code: E

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

Not tested

**Marine transport (IMDG)**

**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Marine pollutant: -  
 Special Provisions: 251, 340  
 Limited quantity: See SP251  
 Excepted quantity: SP340  
 EmS: F-A, S-P

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

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**14.1. UN number:** UN 3316  
**14.2. UN proper shipping name:** CHEMICAL KIT  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** II  
 Hazard label: 9



Special Provisions: A44 A163  
 Limited quantity Passenger: 1 kg  
 Passenger LQ: Y960  
 Excepted quantity: E0  
 IATA-packing instructions - Passenger: 960  
 IATA-max. quantity - Passenger: 10 kg  
 IATA-packing instructions - Cargo: 960  
 IATA-max. quantity - Cargo: 10 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

N06.00116010

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

Not relevant

**Other applicable information**

These transport data apply to the entire pack

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

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

**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: 25.04.2018

Safety datasheet sections which have been updated: 3, 16

Revision Date 10.04.2017

Safety datasheet sections which have been updated: 5

Revision Date 07.03.2017

Safety datasheet sections which have been updated: 2, 14, 15

Revision: 23.06.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 29.08.2013

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

Classification	Classification procedure
Flam. Liq. 3; H226	Calculation method
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method

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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects .
EUH066	Repeated exposure may cause skin dryness or cracking.

#### 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.)*