

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

### 1.1. Product identifier

**Name of product** CaliMat buffer solution pH 4,00

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

#### Recommended intended purpose(s)

Chemical analytics

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

#### Manufacturer/distributor

Knick Elektronische Messgeräte GmbH & Co. KG  
Beuckestr. 22, D-14163 Berlin  
Phone +49 30 80191 - 0, Fax +49 30 80191 - 200  
E-Mail : knick@knick.de  
Internet : www.knick.de

#### Advice

Development, Product Safety, Chemistry/Sensorics  
Phone +49 30 80191 370  
E-mail (competent person):  
sdb@knick.de

### 1.4. Emergency telephone number

#### Emergency advice

Gemeinsames Giftinformationszentrum der Länder M-V, Sachsen,  
Sachsen-Anhalt und Thüringen (GGIZ)  
Phone (in German language) +49-361-73 07 30

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to 67/548/EEC or 1999/45/EC

##### Additional hints

The preparation is not classified as hazardous according to Directive 1999/45/EC.

#### Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

##### Additional hints

This mixture is not classified as hazardous according to Regulation (EC) 1272/2008 [GHS].

### 2.2. Label elements

#### Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

#### Additional information

##### Remark

This product is not classified as hazardous according to Regulation (EC) 1272/2008 [GHS].

### 2.3. Other hazards

#### Results of PBT and vPvB assessment

not applicable

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## SECTION 3: Composition/ information on ingredients

### 3.2. Mixtures

#### Description

Aqueous solution.  
Buffer solution (Citric acid / Sodium hydroxide / Hydrogen chloride)

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Remove contaminated clothing.

#### In case of inhalation

Ensure of fresh air.  
Refer for medical treatment.

#### In case of skin contact

In case of contact with skin wash off immediately with plenty of water.

#### In case of eye contact

Remove contact lens  
In case of contact with eyes rinsing with plenty of lukewarm water carefully and seek for medical treatment.

#### In case of ingestion

In case of illness, seek medical advice.  
Give plenty of water to drink in small sips.

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

No information available.

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

No information available.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

#### Unsuitable extinguishing media

Full water jet

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

Not inflammable

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply ( isolated ).  
Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus.

#### Additional information

Cool endangered containers with water spray jet.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

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## SECTION 6: Accidental release measures

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

Ensure adequate ventilation.  
Use personal protective clothing.  
Use breathing apparatus if exposed to vapours/dust/aerosol.

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## 6.2. Environmental precautions

Collect contaminated water / firefighting water separately.  
Do not discharge into the drains/surface waters/groundwater.

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

Take up with absorbent material (e.g. sand, kieselguhr, acid binder, general-purpose binder, sawdust).  
Use chemical neutralizers.

After taking up the material dispose according to regulation.

### Additional Information

Informations for safe handling see chapter 7.  
Informations for personal protective equipment see chapter 8.  
Informations for disposal see chapter 13.

## 6.4. Reference to other sections

No information available.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Take the usual precautions when handling with chemicals.

#### General protective measures

Avoid contact with eyes and skin  
Do not inhale aerosols

#### Hygiene measures

Please observe work hygiene regulations.  
At work do not eat, drink, smoke or take drugs.  
Remove soiled or soaked clothing immediately.  
Wash hands before breaks and after work.

#### Advice on protection against fire and explosion

No special measures necessary.

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

#### Requirements for storage rooms and vessels

Only use containers that are approved specifically for the substance/product.

#### Further information on storage conditions

Keep container tightly closed and store at cool and aired place.  
Protect from direct solar radiation.

### 7.3. Specific end use(s)

#### Recommendation(s) for intended use

Ready to use pH buffer solutions for use in industrial processes and in the laboratory

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No information available.

### 8.2. Exposure controls

#### Respiratory protection

Breathing apparatus in the event of aerosol or mist formation.

#### Hand protection

Glove material specification [make/type, thickness, permeation time/life, wetting resistance]: Nitrile; 0.1 mm; 480 min.; 60min.;  
for example "DERMATRIL L" from the company KCL, email: Vertrieb@kcl.de

The selection of a suitable glove depends and from manufacturer to manufacturer different not only on the material, but also on further quality criteria.

The exact breakthrough time of the glove material is to be inquired from the protection glove manufacturer and must be strictly adhered to.

#### Eye protection

safety goggles with side protection

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**Skin protection**  
Protective clothing

## SECTION 9: Physical and chemical properties

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

<b>Form</b>	<b>Colour</b>	<b>Odour</b>
liquid	red	odourless

### Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
<b>pH value in delivery state</b>	4	20 °C			
<b>boiling temperature</b>	ca. 100 °C		1013 hPa		
<b>Flash point</b>	not applicable				
<b>Lower explosion limit</b>	not determined				
<b>Upper explosion limit</b>	not determined				
<b>Vapour pressure</b>	23 hPa	20 °C			
<b>Relative density</b>	ca. 1 g/cm <sup>3</sup>	20 °C			
<b>Solubility in water</b>		20 °C			miscible

### Explosive properties

The product is not explosive

### 9.2. Other information

No information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

No information available.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

No data available.

### 10.5. Incompatible materials

No information available.

### 10.6. Hazardous decomposition products

With regard to possible decomposition products refer to Section 5.

### Thermal decomposition

Remark No decomposition if used as directed.

### Additional information

No decomposition if used as prescribed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
<b>LD50 acute oral</b>				No data available
<b>LD50 acute dermal</b>				No data available
<b>LC50 acute inhalation</b>				No data available
<b>Irritability skin</b>	low irritant effect - not necessary to label			
<b>Irritability eye</b>	low irritant - no labeling duty			
<b>Skin sensitization</b>	non-sensitizing			
<b>Sensitization respiratory system</b>	not sensitizing			

**Specific target organ toxicity (single exposure)**  
 not applicable

**Specific target organ toxicity (repeated exposure)**  
 not applicable

**Aspiration hazard**  
 not applicable

**Experiences made from practice**  
 Contact with the skin and the eyes may cause irritation  
 Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).

**Additional information**  
 The product is to be handled with the caution usual with chemicals.

## SECTION 12: Ecological information

**12.1. Toxicity**  
 No information available.

**12.2. Persistence and degradability**  
 No information available.

**12.3. Bioaccumulative potential**  
 not bioaccumulate

**12.4. Mobility in soil**  
 No information available.

**12.5. Results of PBT and vPvB assessment**  
 not applicable

**12.6. Other adverse effects**

#### General regulation

Undiluted and/or in larger quantities into the groundwater, in waters or into drains to arrive do not leave.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Recommendations for the product

There are no harmonised regulations on the disposal of chemicals in the member states of the EU. In Germany, the Recycling and Waste Management Act 8 KrW-/AbfG) stipulates recycling as a requirement.

This means that a distinction must be made between "wastes for recycling" and "wastes for disposal". Particular aspects - in the main concerning delivery - are also governed by the Laender.

#### Recommendations for packaging

Disposal in accordance with local regulations.

#### Recommended cleansing agent

Water

#### General information

The waste code must be allocated in compliance with the EAK-regulation referring to the specific process and the sector.

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## SECTION 14: Transport information

### Transport/further information

No dangerous goods as defined by the transport regulations - ADR/RID, IMDG, ICAO/IATA-DGR.

### Special precautions for user

No information available.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

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## SECTION 15: Regulatory information

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

No information available.

### 15.2. Chemical Safety Assessment

For mixtures a chemical safety assessment is generally not possible resp. required.

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## SECTION 16: Other information

### Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

### Further information

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

Please observe the following disclaimer! --- Our safety data sheets have been compiled according to effective EU-directives, WITHOUT taking into account the special national directives concerning the handling of hazardous substances.

Each user is responsible for the implementation of the national special regulations.

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