



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 15.03.2013

Version 3.5

---

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

### 1.1 Product identifier

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®  
REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

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

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merck-chemicals.com](http://www.merck-chemicals.com)).

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0  
Responsible Department EQ-RS \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

1.4 Emergency telephone number Please contact the regional company representation in your country.

---

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

This mixture is not classified as dangerous according to European Union legislation.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)  
Not a dangerous substance according to GHS.

### Labelling (67/548/EEC or 1999/45/EC)

The product does not need to be labelled in accordance with EC directives or respective national laws.

### 2.3 Other hazards

None known.

---

## SECTION 3. Composition/information on ingredients

Chemical nature Buffer solution

### 3.1 Substance

not applicable

### 3.2 Mixture

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

Remarks No disclosure requirement according to Regulation (EC) No. 1907/2006.

---

#### SECTION 4. First aid measures

##### 4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

We have no description of any toxic symptoms.

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

No information available.

---

#### SECTION 5. Firefighting measures

##### 5.1 Extinguishing media

*Suitable extinguishing media*

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

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.

Ambient fire may liberate hazardous vapours.

##### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

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

*Further information*

none

---

#### SECTION 6. Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

##### 6.2 Environmental precautions

No special precautionary measures necessary.

##### 6.3 Methods and materials for containment and cleaning up

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH<sup>-</sup>, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

#### 6.4 Reference to other sections

Indications about waste treatment see section 13.

---

### SECTION 7. Handling and storage

#### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

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

*Storage conditions*

Tightly closed.

Store at +15°C to +25°C.

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

### SECTION 8. Exposure controls/personal protection

#### 8.1 Control parameters

#### 8.2 Exposure controls

##### Engineering measures

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

See section 7.1.

##### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

*Respiratory protection*

Not required; except in case of aerosol formation.

**Environmental exposure controls**

No special precautionary measures necessary.

---

**SECTION 9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	odourless
Odour Threshold	not applicable
pH	10,0 at 20 °C
Melting point	-6 °C
Boiling point/boiling range	110 °C
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Relative density	1,00 g/cm <sup>3</sup> at 20 °C
Water solubility	at 20 °C soluble

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

#### 9.2 Other data

none

---

### SECTION 10. Stability and reactivity

#### 10.1 Reactivity

See section 10.3

#### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

#### 10.4 Conditions to avoid

no information available

#### 10.5 Incompatible materials

no information available

#### 10.6 Hazardous decomposition products

no information available

---

### SECTION 11. Toxicological information

#### 11.1 Information on toxicological effects

##### Mixture

##### *Acute oral toxicity*

This information is not available.

##### *Acute inhalation toxicity*

This information is not available.

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

This information is not available.

##### *Eye irritation*

This information is not available.

##### *Sensitisation*

This information is not available.

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

**11.2 Further information**

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

---

**SECTION 12. Ecological information**

**Mixture**

**12.1 Toxicity**

No information available.

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

*Additional ecological information*

No ecological problems are to be expected when the product is handled and used with due care and attention.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 109438  
Product name Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

---

**SECTION 13. Disposal considerations**

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

---

**SECTION 14. Transport information**

**Land transport (ADR/RID)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

**Sea transport (IMDG)**

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

---

**SECTION 15. Regulatory information**

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

*EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Directive 96/82/EC does not apply

Regulation (EC) No 1005/2009 on substances that not regulated  
deplete the ozone layer

Regulation (EC) No 850/2004 of the European not regulated  
Parliament and of the Council of 29 April 2004 on  
persistent organic pollutants and amending  
Directive 79/117/EEC

Regulation (EC) No 689/2008 concerning the export not regulated  
and import of dangerous chemicals

Substances of very high concern (SVHC) This product does not contain substances  
of very high concern above the respective  
regulatory limit (> 0.1 % (w/w) Regulation  
(EC) No 1907/2006 (REACH), Article 57).

*National legislation*

Storage class 10 - 13

**15.2 Chemical Safety Assessment**

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	109438
Product name	Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

---

For this product a chemical safety assessment was not carried out.

---

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### Regional representation

This information is given on the authorised Safety Data Sheet for your country.

---

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