



# FLYLEAF

## Combi tester PC 5

Article number: HPK4.1

### From:

Dostmann Electronic GmbH

Waldenbergweg 3B

97877 Wertheim

Germany

Date of compilation: 2020-06-02

## 1 Composition/information on ingredients

### Bill of materials

Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
Buffer solution pH 4,01 ±0,01 (20°C)	Article number KAY0	1			3 - 11
Buffer solution pH 7,00 ±0,01 (20°C)	Article number KAY1	1			12 - 20
Conductivity standard 1413 µS / cm	Article number KCX3	1			21 - 30
Potassium chloride solution		1			31 - 39

# Combi tester PC 5

Article number: HPK4.1

## 2 Hazards identification

### 2.1 Label elements

**Signal word** Not required

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

**Precautionary statements**

## 3 Transport information

- |     |   |  |
|-----|---|--|
| 3.1 | <b>UN number</b>  | Not subject to transport regulations   |
| 3.2 | <b>UN proper shipping name</b>  | Not relevant   |
| 3.4 | <b>Packing group</b>  | Not relevant   |
| 3.5 | <b>Environmental hazards</b>  | None (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 3.6 | <b>Special precautions for user</b>   |  |
|     | There is no additional information.   |  |
| 3.7 | <b>Information for each of the UN Model Regulations</b>                               |  |
|     | The cargo is not intended to be carried in bulk.                                      |  |
| 3.8 | <b>Information for each of the UN Model Regulations</b>                               |  |
|     | • <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> |  |
|     | Not subject to ADR, RID and ADN.  |  |
|     | • <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |  |
|     | Not subject to IMDG.  |  |
|     | • <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>                    |  |
|     | Not subject to ICAO-IATA.   |  |

**Buffer solution pH 4,01 ±0,01 (20°C)**

article number: **KAY0**  
 Version: **GHS 1.1 en**  
 Replaces version of: 2019-04-02  
 Version: (GHS 1)

date of compilation: 2019-04-02  
 Revision: 2020-06-02

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

**1.1 Product identifier**

Identification of the substance	<b>Buffer solution pH 4,01 ±0,01 (20°C)</b>
Article number	KAY0
Registration number (REACH)	not relevant (mixture)

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

**Identified uses:** laboratory and analytical use  
laboratory chemical

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

Carl Roth GmbH + Co KG  
 Schoemperlenstr. 3-5  
 D-76185 Karlsruhe  
 Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**1.4 Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture****Classification acc. to GHS**

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This mixture does not meet the criteria for classification.

**2.2 Label elements****Labelling GHS**

not required

**Signal word** not required

**2.3 Other hazards**

There is no additional information.

**Buffer solution pH 4,01 ±0,01 (20°C)**article number: **KAY0****SECTION 3: Composition/information on ingredients****3.2 Mixtures****Description of the mixture**

This mixture does not meet the criteria for classification.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General notes**

Take off contaminated clothing.

**Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following skin contact**

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following eye contact**

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date

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

none

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media**

water jet

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

Non-combustible.

**Hazardous combustion products**

May produce toxic fumes of carbon monoxide if burning.

**Buffer solution pH 4,01 ±0,01 (20°C)**article number: **KAY0****5.3 Advice for firefighters**

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

No special measures are necessary.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water.

**6.3 Methods and material for containment and cleaning up****Advice on how to contain a spill**

Covering of drains.

**Advice on how to clean up a spill**

Wipe up with absorbent material (e.g. cloth, fleece).

**Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

No special measures are necessary.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice****• Ventilation requirements**

Use local and general ventilation.

**• Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

**7.3 Specific end use(s)**

No information available.

## Buffer solution pH 4,01 ±0,01 (20°C)

article number: **KAY0**

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation.

##### Environmental exposure controls

Keep away from drains, surface and ground water.

## Buffer solution pH 4,01 ±0,01 (20°C)

article number: **KAY0**

### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	this information is not available
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	4.01
Melting point/freezing point	~ 0 °C
Initial boiling point and boiling range	~ 100 °C
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	~ 1 g/cm <sup>3</sup>
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

#### 9.2 Other information

There is no additional information.

**Buffer solution pH 4,01 ±0,01 (20°C)**article number: **KAY0****SECTION 10: Stability and reactivity****10.1 Reactivity**

This material is not reactive under normal ambient conditions.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

Violent reaction with: Strong oxidiser

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

**10.5 Incompatible materials**

There is no additional information.

**10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

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

Shall not be classified as acutely toxic.

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Summary of evaluation of the CMR properties**

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

**• Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**• Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics****• If swallowed**

data are not available

**• If in eyes**

data are not available

**• If inhaled**

data are not available



## Buffer solution pH 4,01 ±0,01 (20°C)

article number: **KAY0**

- **If on skin**

data are not available

- **Other information**

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

### 12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1	UN number	(not subject to transport regulations)
14.2	UN proper shipping name	not relevant
14.3	Transport hazard class(es)	not relevant
	Class	-
14.4	Packing group	not relevant not assigned to a packing group
14.5	Environmental hazards	NONE (non-environmentally hazardous acc. to the dangerous goods regulations)

## Buffer solution pH 4,01 ±0,01 (20°C)

article number: **KAY0**

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

Not subject to ADR, RID and ADN.

- **International Maritime Dangerous Goods Code (IMDG)**

Not subject to IMDG.

- **International Civil Aviation Organization (ICAO-IATA/DGR)**

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

#### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

#### Legend

AICS	Australian Inventory of Chemical Substances
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

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

**Buffer solution pH 4,01 ±0,01 (20°C)**

 article number: **KAY0**
**SECTION 16: Other information**
**Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

**Key literature references and sources for data**

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

not relevant.

**Disclaimer**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

**Buffer solution pH 7,00 ±0,01 (20°C)**

article number: **KAY1**  
 Version: **GHS 1.1 en**  
 Replaces version of: 2019-04-02  
 Version: (GHS 1)

date of compilation: 2019-04-02  
 Revision: 2020-06-02

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

**1.1 Product identifier**

Identification of the substance	<b>Buffer solution pH 7,00 ±0,01 (20°C)</b>
Article number	KAY1
Registration number (REACH)	not relevant (mixture)

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

**Identified uses:** laboratory and analytical use  
 laboratory chemical

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

Carl Roth GmbH + Co KG  
 Schoemperlenstr. 3-5  
 D-76185 Karlsruhe  
 Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**1.4 Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture****Classification acc. to GHS**

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This mixture does not meet the criteria for classification.

**2.2 Label elements****Labelling GHS**

not required

**Signal word** not required

**2.3 Other hazards**

There is no additional information.

**Buffer solution pH 7,00 ±0,01 (20°C)**article number: **KAY1****SECTION 3: Composition/information on ingredients****3.2 Mixtures****Description of the mixture**

This mixture does not meet the criteria for classification.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General notes**

Take off contaminated clothing.

**Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following skin contact**

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following eye contact**

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date

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

none

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media**

water jet

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

Non-combustible.

**Hazardous combustion products**

May produce toxic fumes of carbon monoxide if burning.

**Buffer solution pH 7,00 ±0,01 (20°C)**article number: **KAY1****5.3 Advice for firefighters**

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

No special measures are necessary.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water.

**6.3 Methods and material for containment and cleaning up****Advice on how to contain a spill**

Covering of drains.

**Advice on how to clean up a spill**

Wipe up with absorbent material (e.g. cloth, fleece).

**Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

No special measures are necessary.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice****• Ventilation requirements**

Use local and general ventilation.

**• Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

**7.3 Specific end use(s)**

No information available.

## Buffer solution pH 7,00 ±0,01 (20°C)

article number: **KAY1**

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation.

##### Environmental exposure controls

Keep away from drains, surface and ground water.

**Buffer solution pH 7,00 ±0,01 (20°C)**

 article number: **KAY1**
**SECTION 9: Physical and chemical properties**
**9.1 Information on basic physical and chemical properties**
**Appearance**

Physical state	liquid (fluid)
Colour	colourless
Odour	this information is not available
Odour threshold	No data available

**Other physical and chemical parameters**

pH (value)	7
Melting point/freezing point	~ 0 °C
Initial boiling point and boiling range	~ 100 °C
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	~ 1 g/cm <sup>3</sup>
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

**9.2 Other information**

There is no additional information.



**Buffer solution pH 7,00 ±0,01 (20°C)**article number: **KAY1****SECTION 10: Stability and reactivity****10.1 Reactivity**

This material is not reactive under normal ambient conditions.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

Violent reaction with: Strong oxidiser

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

**10.5 Incompatible materials**

There is no additional information.

**10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

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

Shall not be classified as acutely toxic.

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Summary of evaluation of the CMR properties**

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

**• Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**• Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics****• If swallowed**

data are not available

**• If in eyes**

data are not available

**• If inhaled**

data are not available

**Buffer solution pH 7,00 ±0,01 (20°C)**article number: **KAY1**• **If on skin**

data are not available

**Other information**

None

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

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**12.2 Process of degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Other adverse effects**

Data are not available.

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

Consult the appropriate local waste disposal expert about waste disposal.

**Sewage disposal-relevant information**

Do not empty into drains.

**13.2 Relevant provisions relating to waste**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**13.3 Remarks**

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

**SECTION 14: Transport information**

<b>14.1</b>	UN number	(not subject to transport regulations)
<b>14.2</b>	UN proper shipping name	not relevant
<b>14.3</b>	Transport hazard class(es)	not relevant
	Class	-
<b>14.4</b>	Packing group	not relevant not assigned to a packing group
<b>14.5</b>	Environmental hazards	NONE (non-environmentally hazardous acc. to the dangerous goods regulations)

## Buffer solution pH 7,00 ±0,01 (20°C)

article number: **KAY1**

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

Not subject to ADR, RID and ADN.

- **International Maritime Dangerous Goods Code (IMDG)**

Not subject to IMDG.

- **International Civil Aviation Organization (ICAO-IATA/DGR)**

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

#### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

#### Legend

AICS	Australian Inventory of Chemical Substances
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

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

## Buffer solution pH 7,00 ±0,01 (20°C)

article number: **KAY1**

### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

#### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

#### List of relevant phrases (code and full text as stated in chapter 2 and 3)

not relevant.

#### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

**Conductivity standard 1413  $\mu$ S / cm**

article number: **KCX3**  
Version: **GHS 1.0 en**

date of compilation: 2020-02-13

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

**1.1 Product identifier**

Identification of the substance	<b>Conductivity standard 1413 <math>\mu</math>S / cm</b>
Article number	KCX3
Registration number (REACH)	not relevant (mixture)

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

**Identified uses:** laboratory chemical  
laboratory and analytical use

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**1.4 Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture****Classification acc. to GHS**

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This mixture does not meet the criteria for classification.

**2.2 Label elements****Labelling GHS**

not required

**Signal word** not required

**2.3 Other hazards**

There is no additional information.

**Conductivity standard 1413  $\mu\text{S} / \text{cm}$**

article number: **KCX3**

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Description of the mixture

This mixture does not meet the criteria for classification.

Name of substance	Identifier	Classification acc. to 1272/2008/EC	Pictograms
Water	CAS No 7732-18-5  EC No 231-791-2		
Potassium chloride	CAS No 7447-40-7  EC No 231-211-8		

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date

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

Treat symptomatically.

**Conductivity standard 1413  $\mu\text{S} / \text{cm}$**

article number: **KCX3**

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide ( $\text{CO}_2$ )

#### **Unsuitable extinguishing media**

water jet

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

None.

#### **Hazardous combustion products**

May produce toxic fumes of carbon monoxide if burning.

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### **For non-emergency personnel**

No special measures are necessary.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### **Advice on how to contain a spill**

Covering of drains.

#### **Advice on how to clean up a spill**

Wipe up with absorbent material (e.g. cloth, fleece).

#### **Other information relating to spills and releases**

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

No special measures are necessary.

##### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work.

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

Keep container tightly closed.

##### Incompatible substances or mixtures

Observe hints for combined storage.

##### Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm



## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A-P2 (combined filters against particles and organic gases and vapours, colour code: Brown/White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid
Colour	colourless
Odour	odourless
Odour threshold	No data available

#### Other physical and chemical parameters

pH (value)	~7 (20 °C)
Melting point/freezing point	~0 °C
Initial boiling point and boiling range	~100 °C
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)

#### Explosive limits

• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	1.049 $\text{g}/\text{cm}^3$
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion

## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

### Partition coefficient

n-octanol/water (log KOW)

This information is not available.

Auto-ignition temperature

Information on this property is not available.

Decomposition temperature

no data available

Viscosity

not determined

Explosive properties

Shall not be classified as explosive

Oxidising properties

none

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

No known hazardous reactions

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

strong oxidiser, nitric acid and nitrous acid, sulphuric acid and sulphurous acid, phosphorus oxides (PxOy), peroxides, e.g. hydrogen peroxide, Halogens

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

#### • Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

- **Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

- **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

data are not available

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

data are not available

- **Other information**

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

#### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Potassium chloride	7447-40-7	EC50	>440 $\text{mg}/\text{l}$	daphnia magna	48 h
Potassium chloride	7447-40-7	EC50	>100 $\text{mg}/\text{l}$	Grünalge	72 h
Potassium chloride	7447-40-7	LC50	880 $\text{mg}/\text{l}$	Pimephales promelas	96 h

### 12.2 Process of degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

**Conductivity standard 1413  $\mu\text{S} / \text{cm}$**

article number: **KCX3**

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### **Sewage disposal-relevant information**

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

- |             |  |  |
|-------------|--|--|
| <b>14.1</b> | UN number  | (not subject to transport regulations)                                       |
| <b>14.2</b> | UN proper shipping name  | not relevant   |
| <b>14.3</b> | Transport hazard class(es)   | not relevant   |
|             | Class  | -  |
| <b>14.4</b> | Packing group  | not relevant not assigned to a packing group                                 |
| <b>14.5</b> | Environmental hazards  | NONE (non-environmentally hazardous acc. to the dangerous goods regulations) |
| <b>14.6</b> | <b>Special precautions for user</b>  |  |
|             | There is no additional information.  |  |
| <b>14.7</b> | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>  |  |
|             | The cargo is not intended to be carried in bulk.   |  |
| <b>14.8</b> | <b>Information for each of the UN Model Regulations</b>  |  |
|             | <ul style="list-style-type: none"> <li>• <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b><br/>Not subject to ADR, RID and ADN.</li> <li>• <b>International Maritime Dangerous Goods Code (IMDG)</b><br/>Not subject to IMDG.</li> <li>• <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b><br/>Not subject to ICAO-IATA.</li> </ul> |  |

## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

### SECTION 15: Regulatory information

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

##### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSSL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

##### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSSL-ENCS	List of Existing and New Chemical Substances (CSSL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

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

### SECTION 16: Other information

##### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)

## Conductivity standard 1413 $\mu\text{S} / \text{cm}$

article number: **KCX3**

Abbr.	Descriptions of used abbreviations
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

not relevant.

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:Version: **GHS 1.0 en**

date of compilation: 2020-06-02

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

#### 1.1 Product identifier

Identification of the substance **Potassium chloride solution**  
 Registration number (REACH) not relevant (mixture)

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

**Identified uses:** laboratory chemical  
 laboratory and analytical use

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

Carl Roth GmbH + Co KG  
 Schoemperlenstr. 3-5  
 D-76185 Karlsruhe  
 Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification acc. to GHS

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This mixture does not meet the criteria for classification.

#### 2.2 Label elements

##### Labelling GHS

not required

**Signal word** not required

#### 2.3 Other hazards

There is no additional information.

**Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution**

article number:

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Description of the mixture**

This mixture does not meet the criteria for classification.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General notes**

Take off contaminated clothing.

**Following inhalation**

Provide fresh air.

**Following skin contact**

Rinse skin with water/shower.

**Following eye contact**

Rinse cautiously with water for several minutes.

**Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date

**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**Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)**Unsuitable extinguishing media**

water jet

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

Non-combustible.

**Hazardous combustion products**

in case of fire and/or explosion do not breathe fumes



**Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution**

article number:

**5.3 Advice for firefighters**

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

No special measures are necessary.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water.

**6.3 Methods and material for containment and cleaning up****Advice on how to contain a spill**

Covering of drains.

**Other information relating to spills and releases**

Place in appropriate containers for disposal.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

No special measures are necessary.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice****• Ventilation requirements**

Use local and general ventilation.

**• Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

**7.3 Specific end use(s)**

No information available.

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



- **hand protection**

Hand protection is not required.

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Usually no personal respiratory protection necessary.  
Respiratory protection necessary at: Aerosol or mist formation.

##### Environmental exposure controls

Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	odourless
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	~ 7
Melting point/freezing point	not determined
Initial boiling point and boiling range	~ 100 °C

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:

Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	1.13 g/cm <sup>3</sup> at 20 °C
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

No known hazardous reactions

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

**Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution**

article number:

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

Shall not be classified as acutely toxic.

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Summary of evaluation of the CMR properties**

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

**• Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**• Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics****• If swallowed**

data are not available

**• If in eyes**

data are not available

**• If inhaled**

data are not available

**• If on skin**

data are not available

**Other information**

None

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

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**12.2 Process of degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

<b>14.1</b>	UN number	(not subject to transport regulations)
<b>14.2</b>	UN proper shipping name	not relevant
<b>14.3</b>	Transport hazard class(es)	not relevant
	Class	-
<b>14.4</b>	Packing group	not relevant not assigned to a packing group
<b>14.5</b>	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
<b>14.6</b>	<b>Special precautions for user</b>	
	There is no additional information.	
<b>14.7</b>	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.	
<b>14.8</b>	<b>Information for each of the UN Model Regulations</b>	
	<ul style="list-style-type: none"> <li>• <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> Not subject to ADR, RID and ADN.</li> <li>• <b>International Maritime Dangerous Goods Code (IMDG)</b> Not subject to IMDG.</li> <li>• <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b> Not subject to ICAO-IATA.</li> </ul>	

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:

### SECTION 15: Regulatory information

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

##### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CACL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

##### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CACL-ENCS	List of Existing and New Chemical Substances (CACL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

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

### SECTION 16: Other information

##### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances

## Potassium chloride solution 3 mol/l - 3 N, volumetric standard solution

article number:

Abbr.	Descriptions of used abbreviations
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

not relevant.

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.