



**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

Corrosive to metals Category 1  
H290 May be corrosive to metals.

**2.2. Label elements**

**REGULATION (EC) No 1272/2008**

Hazard pictograms



Signal word : Warning

Hazard statements : H290 May be corrosive to metals.

Precautionary statements : P234 Keep only in original container.  
P280 Wear protective gloves/ eye protection/  
face protection.

**2.3. Other hazards**

This product is a mixture. Health hazard information is based on its components.

**SECTION 3: Composition/information on ingredients**

**3.1. Substance**

Not applicable

**3.2. Mixture**

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
citric acid	77-92-9 607-750-00-3 201-069-1	Eye Irrit. 2; H319 STOT SE 3; H335	>= 0,1 % - <= 1 %	
Sodium chloride	7647-14-5 231-598-3		>= 0,1 % - <= 1 %	N.C.*

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

hydrochloric acid	7647-01-0 017-002-01-X 231-595-7	Skin Corr. 1B; H314 STOT SE 3; H335; Respiratory system	>= 0,01 % - <= 0,1 %	STOT SE 3; H335:>= 10 % Skin Irrit. 2; H315:10 - < 25 % Eye Irrit. 2; H319:10 - < 25 % Skin Corr. 1B; H314:>= 25 %
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N.C.\* - Non-hazardous substance - for information only

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

*Inhalation:*

If breathed in, move person into fresh air. If symptoms persist, call a physician.

*Skin contact:*

After contact with skin, wash immediately with plenty of water. If symptoms persist, call a physician.

*Eye contact:*

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. If eye irritation persists, consult a specialist.

*Ingestion:*

When swallowed, allow water to be drunk. Rinse mouth. Consult a physician.

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

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

*Suitable extinguishing media:*

Water spray jet  
Dry powder  
Carbon dioxide (CO<sub>2</sub>)  
Foam

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

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

The product itself does not burn.  
Fire may cause evolution of:  
Carbon oxides  
Chlorine compounds  
Gaseous hydrogen chloride (HCl).

**5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.  
Do not use a solid water stream as it may scatter and spread fire. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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**SECTION 6: Accidental release measures**

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

Wear personal protective equipment. Unprotected persons must be kept away. Provide adequate ventilation.

## Buffer solution pH 2.00 (20°C)

31045-1L

Version 1.3

Revision Date 22.04.2022

---

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

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

Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice.

*Advice on protection against fire and explosion:*

Normal measures for preventive fire protection.

*Hygiene measures:*

General industrial hygiene practice.

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

*Requirements for storage areas and containers:*

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

### 7.3. Specific end use(s)

no additional data available

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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

**8.1. Control parameters**

**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**DNEL/ PNEC-Values**

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Sodium chloride	Workers / Long-term systemic effects		2068,62 mg/m <sup>3</sup>	Inhalation	
Sodium chloride	Workers / Acute systemic effects		2068,62 mg/m <sup>3</sup>	Inhalation	
Sodium chloride	Workers / Long-term systemic effects		295,52mg/k g bw/d	Skin contact	
Sodium chloride	Workers / Acute systemic effects		295,52mg/k g bw/d	Skin contact	
Sodium chloride	Consumers / Long-term systemic effects		443,28 mg/m <sup>3</sup>	Inhalation	
Sodium chloride	Consumers / Acute systemic effects		443,28 mg/m <sup>3</sup>	Inhalation	
Sodium chloride	Consumers / Long-term systemic effects		126,65mg/k g bw/d	Skin contact	
Sodium chloride	Consumers / Acute		126,65mg/k	Skin contact	

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

	systemic effects		g bw/d		
Sodium chloride	Consumers / Long-term systemic effects		126,65mg/k g bw/d	Ingestion	
Sodium chloride	Consumers / Acute systemic effects		126,65mg/k g bw/d	Ingestion	
hydrochloric acid	Workers / Acute local effects		15 mg/m3	Inhalation	
hydrochloric acid	Workers / Long-term local effects		8 mg/m3	Inhalation	
hydrochloric acid	Consumers / Acute local effects		15 mg/m3	Inhalation	
hydrochloric acid	Consumers / Long-term local effects		8 mg/m3	Inhalation	

Component	Environmental compartment / Value	Remarks
Sodium chloride	Fresh water: 5 mg/l	Assessment factor: 50
Sodium chloride	Sewage treatment plant: 500 mg/l	Assessment factor: 10
Sodium chloride	Soil: 4,86 mg/kg dw	Assessment factor: 50

## Buffer solution pH 2.00 (20°C)

31045-1L

Version 1.3

Revision Date 22.04.2022

### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

#### Personal protective equipment

##### *Respiratory protection:*

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

##### *Hand protection:*

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 0,6 mm

Lapren®706

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

##### *Eye protection:*

Safety glasses with side-shields

##### *Skin and body protection:*

Protective suit



**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

**Environmental exposure controls**

Handle in accordance with local environmental regulations and good industrial practices.

**SECTION 9: Physical and chemical properties**

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

Physical state	: liquid
Colour	: colourless
Odour	: odourless
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flammability	: No data available
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: Stable under recommended storage conditions.
pH	: 2,0
Viscosity, kinematic	: No data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: Not applicable
Vapour pressure	: No data available
Density	: 1,0 g/cm <sup>3</sup>

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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Relative vapour density : No data available

**9.2 Other Information**

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Corrosive to metals : Corrosive to metals

Evaporation rate : No data available

Viscosity, dynamic : No data available

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**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Stable under recommended storage conditions.

**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**

None known.

**10.5. Incompatible materials**

Strong bases  
Strong oxidizing agents  
Strong reducing agents  
Metals

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

**10.6. Hazardous decomposition products**

Fire may cause evolution of:  
Carbon oxides  
Chlorine compounds  
Gaseous hydrogen chloride (HCl).

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

*Acute oral toxicity:*  
No data available

*Acute dermal toxicity:*  
No data available

*Acute inhalation toxicity:*  
No data available

*Skin irritation:*  
No data available

*Eye irritation:*  
No data available

*Respiratory or skin sensitisation:*  
No data available

*Carcinogenicity:*  
Note: No data available

*Germ cell mutagenicity:*  
Note: No data available

*Reproductive toxicity:*  
Remarks: No data available

*Aspiration hazard:*  
No data available

**11.2. Information on other hazards**

Endocrine disrupting properties

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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No data available

*Other information:*  
No data available

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**SECTION 12: Ecological information**

**12.1. Toxicity**

*Toxicity to fish:*  
No data available

*Toxicity to aquatic plants:*  
No data available

*Toxicity to aquatic invertebrates:*  
No data available

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

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

No data available

**12.6. Endocrine disrupting properties**

No data available

**12.7. Other adverse effects**

No data available

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

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**SECTION 14: Transport information**

**14.1 UN number**

ADR/RID:1789

IMDG:1789

IATA:1789

**14.2 UN proper shipping name**

ADR/RID:HYDROCHLORIC ACID

IMDG:HYDROCHLORIC ACID

IATA:Hydrochloric acid

**14.3 Transport hazard class(es)**

ADR/RID: 8

IMDG: 8

IATA: 8

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID:no

Marine pollutant: no

**14.6 Special precautions for user**

IMDG Code segregation group (SGG1) – ACIDS,

**14.7 Maritime transport in bulk according to IMO instruments**

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

No data available

**SECTION 15: Regulatory information**

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

Basis	Value	Remarks
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420 112 (begär Gif tinformation); +46104566786
Sweden	
Switzerland	145
United Kingdom	(+44) 844 892 0111

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

**Other inventory information**

US. Toxic Substances Control Act  
Not On TSCA Inventory

Australia. Industrial Chemicals Act (AIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
Not in compliance with the inventory

Japan. Kashin-Hou Law List  
Not in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
Not in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

**Buffer solution pH 2.00 (20°C)**

31045-1L

Version 1.3

Revision Date 22.04.2022

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**SECTION 16: Other information**

**Text of H-statements referred to under heading 3**

citric acid : H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

hydrochloric acid : H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.

**Further information**

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

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