

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Pufferlösung/ Reduktionsmittel pH 5,1 zur Kupferbestimmung

Revision date: 09.02.2023

Product code: 24378

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

##### 1.1. Product identifier

Pufferlösung/ Reduktionsmittel pH 5,1 zur Kupferbestimmung

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

###### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

###### Uses advised against

Do not use for private purposes (household).

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

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

This product is a mixture. REACH Registration Number see section 3.

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

###### Special labelling of certain mixtures

EUH208	Contains hydroxylammonium chloride. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

##### 2.3. Other hazards

No data available

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

##### 3.2. Mixtures

###### Chemical characterization

Mixtures in aqueous solution

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
5949-29-1	Citric acid 1-hydrate			1 - < 5 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2, STOT SE 3; H319 H335			
5470-11-1	hydroxylammonium chloride			< 1 %
	226-798-2	612-123-00-2	01-2120766309-45	
	Met. Corr. 1, Carc. 2, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT RE 2, Aquatic Acute 1; H290 H351 H312 H302 H315 H319 H317 H373 H400			

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
5949-29-1	201-069-1	Citric acid 1-hydrate	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 5400 mg/kg	
5470-11-1	226-798-2	hydroxylammonium chloride	< 1 %
		dermal: ATE = 1100 mg/kg; oral: ATE = 500 mg/kg	

**Further Information**

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

No data available

**After inhalation**

Provide fresh air.

**After contact with skin**

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

Call a doctor if you feel unwell.

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

No data available

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

No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

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**Unsuitable extinguishing media**

no restriction

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

Non-combustible liquids

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

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

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Handle and open container with care.

Keep container tightly closed.

Do not breathe vapour/aerosol.

Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

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**Advice on general occupational hygiene**

Wash contaminated clothing prior to re-use.  
Do not breathe vapour/aerosol.  
Avoid contact with skin, eyes and clothes.

**Further information on handling**

Wash contaminated clothing before reuse.  
Wash hands before breaks and after work.

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

**Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

No data available

**Further information on storage conditions**

Store in a dry place.

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

Laboratory chemicals

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

**8.1. Control parameters**

**PNEC values**

CAS No	Substance	
Environmental compartment		Value
5949-29-1	Citric acid 1-hydrate	
Freshwater		0,44 mg/l
Marine water		0,044 mg/l
Freshwater sediment		34,6 mg/kg
Marine sediment		3,46 mg/kg
Micro-organisms in sewage treatment plants (STP)		1000 mg/l
Soil		33,1 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11mm  
Wearing time with permanent contact: >480min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

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Recommended material: NBR (Nitrile rubber) 0,11mm  
Wearing time with occasional contact (splashes): >480min

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).

**Skin protection**

Wear suitable protective clothing.  
Wash hands before breaks and after work.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

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

Physical state:	Liquid	
Colour:	clear	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		5,1
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
No data available		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available

**9.2. Other information**

**Information with regard to physical hazard classes**

Explosive properties	
No data available	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

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**Other safety characteristics**

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	0
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

There are no data available on the mixture itself.

**10.2. Chemical stability**

There are no data available on the mixture itself.

**10.3. Possibility of hazardous reactions**

There are no data available on the mixture itself.

**10.4. Conditions to avoid**

There are no data available on the mixture itself.

**10.5. Incompatible materials**

There are no data available on the mixture itself.

**10.6. Hazardous decomposition products**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Based on available data, the classification criteria are not met.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
5949-29-1	Citric acid 1-hydrate				
	oral	LD50 mg/kg 5400	Mouse	Study report (1981)	OECD Guideline 401
	dermal	LD50 mg/kg > 2000	Rat	Study report (2006)	OECD Guideline 402
5470-11-1	hydroxylammonium chloride				
	oral	ATE mg/kg 500			
	dermal	ATE mg/kg 1100			

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Contains hydroxylammonium chloride. May produce an allergic reaction.

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

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards**

**Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
5949-29-1	Citric acid 1-hydrate					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Pimephales promelas	Photogr. Sci. Eng. 16(5):370-377 (1972)	
	Acute crustacea toxicity	EC50 > 50 mg/l	48 h	other aquatic crustacea: Dreissena polymorpha	Environ.Toxicol.C hem. 16(9): 1930-1934 (	other: ASTM
	Algae toxicity	NOEC 425 mg/l	8 d	Scenedesmus quadricauda	Water Research 14: 231-241 (1980)	other: Bringmann and Kuhn

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
5949-29-1	Citric acid 1-hydrate	-1,55

**BCF**

CAS No	Chemical name	BCF	Species	Source
5949-29-1	Citric acid 1-hydrate	3,2		In: (2009)

**12.4. Mobility in soil**

There are no data available on the mixture itself.

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

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

There are no data available on the mixture itself.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

There are no data available on the mixture itself.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

**Contaminated packaging**

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

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.



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**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

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

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information**

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):  
Entry 75

**National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

**Additional information**

No data available

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 2,9,15.

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

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.

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H400	Very toxic to aquatic life.
EUH208	Contains hydroxylammonium chloride. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

#### Further Information

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. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*