

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Citric acid solution 6 % pure

Revision date: 14.07.2023

Product code: 11178

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

### 1.1. Product identifier

Citric acid solution 6 % pure

### 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

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			5 - < 10 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2, STOT SE 3; H319 H335			

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	5 - < 10 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 5400 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**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Gastrointestinal complaints

Irritant

Vomiting

**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.

**Unsuitable extinguishing media**

no restriction

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

Hazardous combustion products

#### **5.3. Advice for firefighters**

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

#### **Additional information**

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.
- Use personal protection equipment.
- Provide adequate ventilation.
- Avoid contact with skin, eyes and clothes.
- Do not breathe vapour/aerosol.

##### **Advice on protection against fire and explosion**

Usual measures for fire prevention.

##### **Advice on general occupational hygiene**

- Remove contaminated, saturated clothing immediately.
- Draw up and observe skin protection programme.

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Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

**Further information on handling**

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

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

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

**Requirements for storage rooms and vessels**

Unsuitable container/equipment material: Metal

**Hints on joint storage**

No data available

**Further information on storage conditions**

Keep container tightly closed.

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

Laboratory chemicals

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

**8.1. Control parameters**

**PNEC values**

CAS No	Substance	Value
5949-29-1	Citric acid 1-hydrate	
	Environmental compartment	
	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**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

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Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

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

#### Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

#### Environmental exposure controls

Discharge into the environment must be avoided.

## 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:		acidic
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
Solubility in other solvents		
No data available		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,0232 g/cm <sup>3</sup>
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

### 9.2. Other information

#### Information with regard to physical hazard classes

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#### Explosive properties

No data available

#### Sustaining combustion:

No data available

#### Self-ignition temperature

Solid:

No data available

Gas:

No data available

#### Oxidizing properties

Oxidizing

#### 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

No data available

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Metal

Oxidising agent

Reducing agent

Alkali (lye)

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Metal

### 10.6. Hazardous decomposition products

No data available

#### Further information

No data available

## 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 preparation/mixture itself.

#### Acute toxicity

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

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**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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

**Irritation and corrosivity**

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

**Sensitising effects**

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

**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.

**Information on likely routes of exposure**

There are no data available on the preparation/mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

**Additional information on tests**

There are no data available on the preparation/mixture itself.

**Practical experience**

There are no data available on the preparation/mixture itself.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

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

**Other information**

There are no data available on the preparation/mixture itself.

**Further information**

Gastrointestinal complaints  
Irritant  
Vomiting

**SECTION 12: Ecological information**

**12.1. Toxicity**

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

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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.

**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.  
Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Send to a physico-chemical treatment facility under observation of official regulations.  
Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.  
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.  
Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

**SECTION 14: Transport information**



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**Land transport (ADR/RID)**

- 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.

**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**

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 11,12.

**Abbreviations and acronyms**

Eye Irrit: Eye irritation  
STOT SE: Specific target organ toxicity - single exposure

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

H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
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

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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.)*