

# Citric acid monohydrate

## Safety Data Sheet

**C1303**

according to Regulation (EU) 2015/830

Version: 2.0

Date of issue: 28/09/2010      Revision date: 05/04/2017

Supersedes 05/08/2011

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

#### 1.1. Product identifier

Product form : Substance  
 Substance name : Citric acid monohydrate  
 EC-No. : 201-069-1  
 CAS-No. : 5949-29-1  
 Product code : C1303  
 Formula : C<sub>6</sub>H<sub>8</sub>O<sub>7</sub> · H<sub>2</sub>O  
 Synonyms : Acidum citricum monohydricum / 2-Hydroxy-1,2,3-propantricarboxylic acid-monohydrate / Citric acid hydrate / 2-Hydroxypropane-1,2,3-tricarboxylic acid monohydrate  
 Product group : Raw material

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

Duchefa Biochemie B.V.  
 A. Hofmanweg 71  
 2031 BH Haarlem - The Netherlands  
 T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
 +31(0)23-5319093 (M-F 09:00-17:00)  
 +31(0)6-30109355 (outside office hours)

Organisation/Company	Address	Comment
World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>	Consult website for a local poison centre

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2 H319  
 Skin corrosion/irritation, Category 2 H315

Full text of hazard classes and H-statements : see section 16

## Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07

Signal word (CLP)

: Warning

Hazard statements (CLP)

: H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Precautionary statements (CLP)

: P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : Citric acid monohydrate

CAS-No. : 5949-29-1

EC-No. : 201-069-1

Name	Product identifier	%
Citric acid monohydrate	(CAS-No.) 5949-29-1 (EC-No.) 201-069-1	>= 99,5

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : Wash skin with mild soap and water. Seek medical attention if ill effect or irritation develops.

First-aid measures after eye contact : Rinse immediately with plenty of water. Seek medical advice.

First-aid measures after ingestion : Rinse mouth. Seek medical attention if ill effect or irritation develops.

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

Symptoms/effects after skin contact : Redness, pain.

Symptoms/effects after eye contact : Tears. Redness, pain.

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

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder. Alcohol resistant foam. Carbon dioxide (CO<sub>2</sub>).

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

Hazardous decomposition products in case of fire : When exposed to heat, may decompose liberating hazardous gases. CO<sub>x</sub>.

### 5.3. Advice for firefighters

Precautionary measures fire : Do not enter fire area without proper protective equipment, including respiratory protection.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

## SECTION 6: Accidental release measures

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

General measures : Avoid raising powdered materials into airborne dust.

#### 6.1.1. For non-emergency personnel

Protective equipment : Equip cleanup crew with proper protection.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

Methods for cleaning up : On land, sweep or shovel into suitable containers. Flush residue with large amounts of water.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Store in dry, well-ventilated area. Store at room temperature. Keep container closed when not in use.

### 7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Additional information : Provide local exhaust or general room ventilation

### 8.2. Exposure controls

#### Hand protection:

Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11	EN 374

#### Eye protection:

Safety glasses

#### Skin and body protection:

If skin contact or contamination of clothing is likely, protective clothing should be worn. Avoid repeated or prolonged skin contact

#### Respiratory protection:

Dust production: dust mask with filter type P1 (EN 143). In case of inadequate ventilation wear respiratory protection

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Crystals. Powder.
Molecular mass	: 210,1 g/mol
Colour	: White.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 2 (10 g/l at 20 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: ≈ 145 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: ≈ 345 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: ≈ 153 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1000 kg/m <sup>3</sup>
Solubility	: Water: 1590 g/l at 20 °C
Log Pow	: 1,72
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

## 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Moisture.

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

According to process conditions, hazardous decomposition products may be generated. COx.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Citric acid monohydrate (5949-29-1)	
LD50 oral rat	6730 mg/kg

Skin corrosion/irritation : Causes skin irritation.  
pH: 2 (10 g/l at 20 °C)

Serious eye damage/irritation : Causes serious eye irritation.  
pH: 2 (10 g/l at 20 °C)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Citric acid monohydrate (5949-29-1)	
LC50 fish 1	894 mg/l <i>Carassius auratus</i> (goldfish)
EC50 Daphnia 1	120 mg/l <i>Daphnia magna</i>

## 12.2. Persistence and degradability

Citric acid monohydrate (5949-29-1)	
Persistence and degradability	Product is biodegradable.
Biochemical oxygen demand (BOD)	0,42 g O <sub>2</sub> /g substance
ThOD	0,686 g O <sub>2</sub> /g substance

## 12.3. Bioaccumulative potential

Citric acid monohydrate (5949-29-1)	
Log Pow	1,72

## 12.4. Mobility in soil

No additional information available

## 12.5. Results of PBT and vPvB assessment

No additional information available

## 12.6. Other adverse effects

Additional information : Avoid release to the environment. Prevent entry to sewers and public waters

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

## 14.6. Special precautions for user

### - Overland transport

Not applicable

### - Transport by sea

Not applicable

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### - Air transport

Not applicable

### - Inland waterway transport

Not applicable

### - Rail transport

Not applicable

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Citric acid monohydrate is not on the REACH Candidate List

Citric acid monohydrate is not on the REACH Annex XIV List

#### 15.1.2. National regulations

Ensure all national/local regulations are observed

#### Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 3; ID No. 8248)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Indication of changes:

# Citric acid monohydrate

C1303

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according to Regulation (EU) 2015/830

2.1	Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]	Removed	Obsolete
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves

### Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
LD50	Median lethal dose
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
PBT	Persistent Bioaccumulative Toxic

Data sources : Supplier.

### Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation

SDS Biochemicals version 2017

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*