

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Citric acid monohydrate

Creation date	12. September 2019	Version	1.0
Revision date			

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

- 1.1. Product identifier**  
 Citric acid monohydrate  
 Substance / mixture: substance  
 Chemical name: citric acid  
 CAS number: 5949-29-1  
 EC (EINECS) number: 201-069-1  
 Registration number: 01-21194557026-42-xxxx
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
 Substance's intended use: Chemical production, analytical chemistry, laboratory synthesis, industrial applications.  
 Substance uses advised against: The product should not be used in ways other than those referred in Section 1.  
 Chemical safety report
- 1.3. Details of the supplier of the safety data sheet**  
**Supplier**  
 Name or trade name: Ing. Petr Švec - PENTA s.r.o.  
 Address: Radiová 1122/1, Praha 10, 102 00  
 Czech Republic  
 Identification number (CRN): 02096013  
 VAT Reg No: CZ02096013  
 Phone: +420 226 060 681  
 E-mail: info@pentachemicals.eu  
 Web address: www.pentachemicals.eu
- Competent person responsible for the safety data sheet**  
 Name: Ing. Petr Švec - PENTA s.r.o.  
 E-mail: info@pentachemicals.eu
- 1.4. Emergency telephone number**  
 National Health Service (NHS) 111  
 National poisoning information centre Scotland, NHS 24: 111

#### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**  
**Classification of the substance in accordance with Regulation (EC) No 1272/2008**  
 The substance is classified as dangerous.  
 Eye Irrit. 2, H319  
 Full text of all classifications and hazard statements is given in the section 16.  
**Most serious adverse effects on human health and the environment**  
 Causes serious eye irritation.

- 2.2. Label elements**  
**Hazard pictogram**



**Signal word**  
 Warning

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**Dangerous substance**

citric acid (EC: 201-069-1; CAS: 5949-29-1)

**Hazard statements**

H319 Causes serious eye irritation.

**Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**2.3. Other hazards**

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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

**3.1. Substances**

**Chemical characterization**

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note.
CAS: 5949-29-1 EC: 201-069-1 Registration number: 01-2119457026-42-xxxx	<b>substance main component</b> citric acid	>99	Eye Irrit. 2, H319	

Full text of all classifications and hazard statements is given in the section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

**If inhaled**

Terminate the exposure immediately; move the affected person to fresh air.

**If on skin**

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

**If in eyes**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible.

**If swallowed**

DO NOT INDUCE VOMITING! Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment if the person has any health problems.

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

**If inhaled**

Not expected.

**If on skin**

Not expected.

**If in eyes**

Causes serious eye irritation.

**If swallowed**

Irritation, nausea.

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

Symptomatic treatment.

#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

###### Unsuitable extinguishing media

Water - full jet.

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

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

##### 5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

#### SECTION 6: Accidental release measures

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

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Prevent contact with skin and eyes.

##### 6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

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

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

##### 6.4. Reference to other sections

See the Section 7, 8 and 13.

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

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

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

Storage class

13 - Other non-combustible solids

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

not available

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

##### 8.1. Control parameters

none

##### PNEC

citric acid

Route of exposure	Value	Determining method
Freshwater environment	0.44 mg/l	
Seawater	0.044 mg/l	
Sea sediments	3.46 mg/kg	

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Route of exposure	Value	Determining method
Freshwater sediment	34.6 mg/kg	
Microorganisms in wastewater treatment plants	1000 mg/l	
Soil (agricultural)	33.1 mg/kg	

#### 8.2. Exposure controls

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

##### Eye/face protection

Protective goggles.

##### Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

##### Respiratory protection

It is not needed.

##### Thermal hazard

Not available.

##### Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

### SECTION 9: Physical and chemical properties

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

Appearance

Physical state

solid at 20°C

color

white

Odour

without fragrance

Odour threshold

data not available

pH

1.8 (undiluted)

Melting point/freezing point

135-152 °C

Initial boiling point and boiling range

data not available

Flash point

data not available

Evaporation rate

non-applicable

Flammability (solid, gas)

data not available

Upper/lower flammability or explosive limits

flammability limits

data not available

explosive limits

data not available

Vapour pressure

data not available

Vapour density

data not available

Relative density

data not available

Solubility(ies)

solubility in water

data not available

solubility in fats

data not available

Partition coefficient: n-octanol/water

data not available

Auto-ignition temperature

data not available

Decomposition temperature

data not available

Viscosity

data not available

Explosive properties

data not available

Oxidising properties

data not available

#### 9.2. Other information

Density

1.54 g/cm<sup>3</sup>

ignition temperature

data not available

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#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

The substance is non-flammable.

##### 10.2. Chemical stability

The product is stable under normal conditions.

##### 10.3. Possibility of hazardous reactions

Unknown.

##### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

##### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

##### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

No toxicological data is available for the substance.

##### Acute toxicity

Based on available data the classification criteria are not met.

citric acid

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD50	5040 mg/kg		Mouse	
Oral	LD50	6730 mg/kg		Rat (Rattus norvegicus)	

##### Skin corrosion/irritation

Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

Based on available data the classification criteria are not met.

##### Carcinogenicity

Based on available data the classification criteria are not met.

##### Reproductive toxicity

Based on available data the classification criteria are not met.

##### Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

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#### Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

#### Aspiration hazard

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. Based on available data the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Acute toxicity

Based on available data the classification criteria are not met.

citric acid

Parameter	Value	Time of exposure	Species	Environment
LC50	440-706 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
EC50	100 mg/l		Daphnia (Daphnia magna)	

#### 12.2. Persistence and degradability

Data not available.

#### 12.3. Bioaccumulative potential

Not available.

#### 12.4. Mobility in soil

Not available.

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

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

##### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

### SECTION 14: Transport information

#### 14.1. UN number

Not subject to ADR

#### 14.2. UN proper shipping name

not available

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**14.3. Transport hazard class(es)**

not available

**14.4. Packing group**

not available

**14.5. Environmental hazards**

not available

**14.6. Special precautions for user**

Reference in the Sections 4 to 8.

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

not available

### SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

**15.2. Chemical safety assessment**

not available

### SECTION 16: Other information

**A list of standard risk phrases used in the safety data sheet**

H319 Causes serious eye irritation.

**Guidelines for safe handling used in the safety data sheet**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Other important information about human health protection**

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

**Key to abbreviations and acronyms used in the safety data sheet**

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC50	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC50	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods

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INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Eye Irrit. Eye irritation

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. First aid principles after the exposure to the chemicals (Zásady pro poskytování první pomoci při expozici chemickým látkám, doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### More information

Classification procedure - calculation method.

#### Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.