

SAFETY DATA SHEET

Citric Acid Anhydrous

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

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

1.1. Product identifier

Product name : Citric Acid Anhydrous

Chemical name : 2-hydroxypropane-1,2,3-tricarboxylic acid

EC number : 201-069-1

CAS number : 77-92-9

Other means of identification : 2-Hydroxy-1,2,3-propanetricarboxylic acid

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

Identified uses : Production, use as an intermediate, formulation of preparations used in personal care (use of consumer, professional), used in cleaning products (industrial, professional, consumer), used in the paper industry, the use of construction products (industrial, professional, consumer), the use of polymers and plastics, used in the oil industry, used in the textile industry, used in paints and coatings (industrial, professional, consumer), the use of photography (industrial, professional, consumer), used as laboratory reagents, use in the treatment of water used in surface treatment of metals (industrial, professional, consumer), used in agriculture (industrial, professional, consumer) application in medical devices. Food additives/feed additive for cosmetics, medical materials.

Uses advised against : other than those mentioned above.

1.3. Details of the supplier of the safety data sheet

Name : GLI-THERM Sp. z o.o.

Address : st. Rozwojowa 11, 44-338 Jastrzębie-Zdrój Poland

Regon : 242850136

NIP/Tax No : 6423178990

Telephone : +48 733 525 533

E-mail : sandra.stachowicz@gli-therm.eu

Website address : www.gli-therm.eu

1.4. Emergency telephone number

National advisory body/Poison Center:

Ireland	:	National Poisons Information Centre Emergency number: +353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)
United Kingdom	:	National Poisons Information Service (Newcastle Centre) Emergency number: 0844 892 0111 (UK only, 24/7, healthcare professionals only)
Poland	:	Szpital Praski p.w. Przemienienia Pańskiego Sp. z o.o. Emergency number: +48 22 619 66 54 +48 22 619 08 97
Germany	:	Vergiftungs-Informationen-Zentrale Freiburg Emergency number: +49 (0) 761 19240
24 Hour Emergency Telephone	:	+(44)-8708200418 CHEMTREC

Supplier

Telephone number : +48 733 525 533


SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Health Hazards	:	Eye irritation, cat.2, H319 H335 May cause respiratory irritation.
Hazardous properties	:	not applicable
An environmental hazard	:	not applicable

2.2. Label elements

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H319 - Irritating to eyes H335 May cause respiratory irritation.
Precautionary statements	:	
Prevention	:	P261 Avoid breathing dust/fume/gas/mist/vapours/spray P264 Wash hands thoroughly after handling.

- Response** : **P280** - Wear protective gloves/protective clothing/eye protection/face protection.
- P305 + P351 + P338** - In case of eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- P337 + P313** - In case of persistent eye irritation: seek medical advice/attention to the care of a physician
- P312** Call a POISON CENTER/doctor if you feel unwell.

2.3. Other hazards

- Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : no PBT.
- Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : no vPvB.
- Other hazards which do not result in classification** : Thermal decomposition (> 170 ° C) emit irritating gases.

SECTION 3: Composition/information on ingredients

3.1. Substance

The composition according to the Regulation of 1272/2008.

Citric Acid > 99,5%

CAS No.: 77-92-9

EC No.: 201-069-1

If dangerous ingredients are mentioned, the significance of the R-phrases and H is given in Section 16 of the MSDS.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.
- Inhalation** : Remove from exposure to fresh air immediately, if not breathing give artificial respiration. If breathing is difficult, give oxygen.
- Skin contact** : Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
- Ingestion** : Get medical aid. Wash mouth out with water.

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

Causes serious eye irritation.
If skin irritation or rash occurs, get medical advice/attention.

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

Notes to physician : No data available.

Specific treatments : No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical, alcohol foam, or carbon dioxide.

Unsuitable extinguishing media : Not available.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products : Citric acid is not flammable product. During a fire can form oxides of carbon.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Remove all sources of ignition. Ventilate area of leak or spill.

For emergency responders : Nosić odpowiednie środki ochrony indywidualnej, jak określono w sekcji 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. No special environmental precautions required.

6.3. Methods and materials for containment and cleaning up

Vacuum or sweep up material and place into a suitable disposal container. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 7 for information on safe handling.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1. Precautions for safe handling

- Protective measures** : No technical protective measures are required. Take precautionary measures against static discharges.
- Advice on general occupational hygiene** : Avoid contact with skin and eyes. Avoid breathing dust, vapor, mist, or gas.
- Advice on general occupational hygiene** : Do not eat, drink and smoke in work areas. Wash hands after use.

7.2. Conditions for safe storage, including any incompatibilities.

- Technical measures/Storage conditions** : Keep tightly closed in a dry and cool place.
- Information on joint storage** : Incompatible products: Strong oxidizing agents, strong bases.
- Other information on storage conditions** : Packaging material: Polyethylene coated paper bags, Polyvinyl or Polyethylene/propylene big bags

7.3. Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance.

8.1. Control parameters

- Engineering Controls** : Use adequate ventilation to keep airborne concentrations low.
- Occupational exposure limits** : Not listed.
- Additional exposure limits under the conditions of use** : Not available.
- DNEL/DMEL and PNEC-Values** : Not available.

8.2. Exposure controls

Appropriate engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Individual protection measures

Eye/face protection : Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Hand protection : Wear appropriate protective rubber gloves to prevent skin exposure.

Body protection : Wear protective gloves and clean body-covering clothing.

Respiratory protection : A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Thermal hazards : Wear suitable protective clothing to prevent heat.

Environmental exposure controls : Handling according to local regulations, Federal and official regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: White crystalline powder
Color	: White
Odor	: Not available
pH	: 1,85 (5% solution in 25°C)
Melting point/freezing point [°C]:	: 135-152
Flash point	: 345°C
Vapor pressure	: 0.00000221 Pa
Vapor density	: Not applicable
Density	: 1,665 [kg/m ³] w in 20°C:
Relative density	: 1.665g/cm ³
Solubility(ies)	: ethanol 38% (m/m) in 25°C
Solubility in water at room temperature (g/l)	: 592
Partition coefficient: n-octanol/water	: -1.72~-1.64

Viscosity dynamic (mPa s) : 6.5 mPa s (dynamic)

9.2. Other information

Explosive properties : Lower: 8.0(65ĉ)
Oxidizing properties : Not applicable
Additional information : Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is stable under normal storage and handling conditions..

10.2. Chemical stability

Under normal conditions, the product is stable. No hazardous reaction when handled and stored according to provisions. Hazardous reactions are not known.

10.3. Possibility of hazardous reactions

Under normal conditions, not hazardous reactions will occur.

10.4. Conditions to avoid

Heat, ignition sources, incompatible materials.

10.5. Incompatible materials

Reactive with oxidizing agents, reducing agents, alkalis.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Non-human toxicological data

Citric acid is ubiquitous in the animal kingdom. No study which meets current OECD guidelines is available. However, sufficient information exists on the substance as it is part of the metabolic processed in animals and plants. Therefore pathways for adsorption, distribution and excretion as well as its metabolism are well established, and even essential to all living organisms. The same conclusion may be applied to the citrate salts as discussed at the beginning of chapter 5.

Acute toxicity

Oral : LD50 5400 mg/kg bw (Mouse) OECD 401
Skin : LD50 2000 mg/kg bw (Rat) OECD 402

Skin corrosion/irritation : Not irritating

Serious eye damage/eye irritation : irritating.

Respiratory or skin sensitisation : Not sensitising.

Germ cell mutagenicity : Negative

Carcinogenic : Not listed in ACGLIL, IARC, NIOSH, NTP or OSHA

Reproductive toxicity : No data about the product.

Specific target organ toxicity - single exposure : No data about the product.

Specific target organ toxicity - repeated exposure : No data product.

Aspiration hazard : Lack of information about the product.

11.2 Information on other hazards

Endocrine disrupting properties Substance is not listed.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	440mg/l	48h	Fish	OECD 203	N/A	N/A
EC50	1535mg/l	24h	Daphnia	OECD 202	N/A	N/A
EC50	425 mg/l	8d	Algae	Not available	N/A	N/A

12.2 Persistence and degradability

Abiotic degradation : Citric acid and the metal salts do not possess any functional group that is susceptible to hydrolysis and the substance is expected to be stable in aqueous solution. In addition, the biodegradability of the substance dominates the understanding of stability.

Biotic degradation : Available data suggest that citric acid and the metal salts are rapidly degradable in surface water, soils and sediment. Therefore, based on available data, the substances in this category are not expected to present a hazard to the environment.

12.3 Bioaccumulative potential

Low potential for bioaccumulation.

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

PBT : The substance does not meet the criteria for PBT

vPvB : The substance does not meet the criteria for vPvB.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing use or contamination of this product may change the waste management options. According to local regulations, Federal and official regulations.

Waste code:

16 03 06 organic wastes other than those mentioned in 16 03 05, 16 03 80

Dispose of in a manner consistent with local regulations.

13.2 Product / Packaging disposal:

If empty container retains product residues, all label precautions must be observed. Return for reuse or dispose according to national or local regulations.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1. UN Number	Not regulated	Not regulated	Not regulated
14.2. UN Proper Shipping Name	Not regulated	Not regulated	Not regulated
14.3. Transport Hazard Class(es)	Not regulated	Not regulated	Not regulated
14.4. Packing Group	Not regulated	Not regulated	Not regulated
14.5. Environmental Hazards	Not regulated	Not regulated	Not regulated
14.6. Special Precautions for users	Not regulated	Not regulated	Not regulated

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Has no use

SECTION 15: Regulatory information

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

Act and on 25 February 2011., On chemical substances and mixtures.

The Minister of Environment of 27 September 2001. On the waste.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 ws. REACH.

Regulation of the European Parliament and Council Regulation (EC) No. 1272/2008 of 16 December 2008. On classification, labeling and packaging of substances and mixtures, amending and repealing Directive 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union L335 / 1 dated. 31.12.2008), as amended.

15.2 Chemical Safety Assessment:

No data available.

SECTION 16: Other information

The data is confirmed based on the state of our knowledge, but does not determine how the production properties and cannot be used to justify legally binding contracts.

Abbreviations; acronyms and full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H290	:	May be corrosive to metals.
H300	:	Fatal if swallowed
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H310	:	Fatal in contact with skin

H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H341	:	Suspected of causing genetic defects.
H350i	:	May cause cancer by inhalation.
H360D	:	May damage the unborn child.
H361d	:	Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects
H412	:	Harmful to aquatic life with long lasting effects.
Met. Corr. 1	:	Corrosive to metals, Category 1
Repr. 2	:	Reproductive toxicity, Category 2
Acute Tox. 4	:	Acute toxicity, Category 4
Aquatic Chronic 2	:	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	:	Hazardous to the aquatic environment, chronic, Category 3
Eye Irrit. 2,	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Eye Dam. 1,	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Corr. 1A	:	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	:	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2,	:	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2	:	Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	:	Specific target organ toxicity - single exposure, Category 3
NDS	:	The highest acceptable concentration
NDSch	:	Highest Permissible Temporary Concentration
NDSP	:	Maximum Allowable Ceiling Concentration
REACH	:	Registration, Evaluation, Authorisation and Restriction of Chemical
MARPOL	:	(from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
N/A	:	Not applicable
N/D	:	Not determined
NE	:	Not established
VOC	:	Volatile Organic Compound
AICS	:	Australian Inventory of Chemical Substances

AIHA WEEL	:	American Industrial Hygiene Association Workplace Environmental Exposure Limits
DSL	:	Domestic Substance List (Canada)
ELINCS	:	European List of Notified Chemical Substances
ENCS	:	Existing and new Chemical Substances (Japanese inventory)
IECSC	:	Inventory of Existing Chemical Substances in China
KECI	:	Korean Existing Chemicals Inventory
NDSL	:	Non-Domestic Substances List (Canada)
NZIoC	:	New Zealand Inventory of Chemicals
PICCS	:	Philippine Inventory of Chemicals and Chemical Substances
TLV	:	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	:	Toxic Substances Control Act (U.S. inventory)
UVCB	:	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
IBC Code	:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN	:	United Nations (also UNO: United Nations Organization)
NOEC	:	No Observed Effect Concentration
NOELR	:	No Observable Effect Loading Rate
OECD	:	Organization for Economic Co-operation and Development
ASTM	:	American Society for Testing and Materials
WAF	:	Water Accommodated Fraction
ADR	:	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG	:	International Maritime Code for Dangerous Goods
IATA	:	International Air Transport Association
GHS	:	Globally Harmonised System of Classification and Labeling of Chemicals
EINECS	:	European Inventory of Existing Commercial Chemical Substances
CAS	:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL	:	Derived No-Effect Level (REACH)
PNEC	:	Predicted No-Effect Concentration (REACH)
LC	:	Lethal Concentration
LD	:	Lethal Dose
LL	:	Lethal Loading
EC	:	Effective Concentration
EL	:	Effective Loading
LC50	:	Lethal concentration, 50 percent
LD50	:	Lethal dose, 50 percent
EC50	:	The concentration of the test substance that causes 50% change in response (e.g. to growth) over a specified time period
PBT	:	Persistent, Bioaccumulative and Toxic
vPvB	:	very Persistent and very Bioaccumulative

Acute Tox, 4 : Acute toxicity - Category 4

Notice to reader : The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"