SAFETY DATA SHEET

[In accordance with the criteria of Regulation No 1907/2006 (REACH) with further changes]

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier.

Product name: Citric Acid Monohydrate
Chemical name: Citric Acid
CAS No.: 5949-29-1
Synonyms: E330

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

Relevant identified uses: Used as acidic agent, buffering agent and antioxidant in the food industry; acidity regulator and preservative in the pharmaceutical industry; used in detergents.

Uses advised against: not determined

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

Supplier: **CHEMNOVATIC Sp. z o.o. Sp. k.**
Address: Dobrzańskiego 3/BS002, 20-262 Lublin, POLAND
Phone: +48 814754442

E-mail address of the person responsible for the information card: office@chemnovatic.com

1.4. Emergency telephone number.

112 (general emergency phone number)

Section 2: Hazards Identification

2.1. Classification of the substance or mixture.

Classification according to 1272/2008/EC

Eye Irrit. 2 - Eye Irritation, category 2; H319

STOT SE 3 - Specific target organ toxicity, single exposure, category 3; H335

2.2. Label elements

Hazard symbols and signal words

Warning

Hazard statements

H319 Causes serious eye irritation
H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
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.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

As a result of thermal decomposition (> 170° C), irritating gases are released.

Criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation are not applicable for inorganic substances.

Section 3: Composition/Information on ingredients

3.1 Substances

No.	Chemical name	Percentage	CAS	EC (EINECS)	Index No./ REACH Registration No.	Classification according to 1272/2008/EC
1.	Citric acid	95,5 % - 100 %	5949-29-1	201-069-1	None/01-2119457026-42-xxxx	Eye Irrit. 2; H319 STOT SE 3; H335

3.2 Mixtures

Not applicable.

Section 4: First aid measures

4.1. Description of first aid measures.

Skin contact: Take off contaminated clothing, wash the skin with plenty of water with soap. In case of skin irritation, a dermatological consultation is recommended.

Eye contact: Rinse eyes for at least 15 minutes with plenty of cool water, preferably running water. Avoid strong stream of water because of the risk of mechanical damage to the cornea. Provide an ophthalmologist consultation.

Ingestion: Do not induce vomiting. Rinse mouth with water, then give plenty of water to drink. Consult a physician if necessary.

Inhalation: Take the poisoned person out of the place of exposure. Provide access to fresh air. If breathing difficulties persist, obtain medical attention.

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

Eye contact: causes eye irritation.

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

No recommendations other than listed in section 4.1.

Section 5: Firefighting measures

5.1. Extinguishing media.

Suitable extinguishing media: Water - dispersed stream, foam, extinguishing powders, carbon dioxide.

Unsuitable extinguishing media: Do not use heavy streams of water.

5.2. Special hazards arising from the substance or mixture.

Combustible substance. During combustion, carbon monoxide and carbon dioxide are formed.

5.3. Advice for firefighters.

Do not stay in the danger zone without protective clothing and oxygen apparatus. Quench gases and vapors with water spray. Prevent fire-fighting water from entering surface or groundwater. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures.

Avoid dust formation and induction. Avoid direct contact with the substance. Avoid contact with skin and eyes.

Use protective clothing and equipment. Provide adequate ventilation.

6.2. Environmental precautions.

Do not allow product to reach sewage system, surface water, groundwater and soil.

6.3. Methods and material for containment and cleaning up.

Secure the drains. Place damaged packaging in a protective packaging. Collect the spilled substance dry to a labeled container, transfer to utilization. Rinse the contaminated surface with plenty of water.

6.4. References to other sections.

Appropriate conduct with waste product - see section 13. Personal protective equipment - see section 8.

Section 7: Handling and storage

7.1. Precautions for safe handling.

When using, do not eat, drink, avoid contact with the substance, avoid inhaling dusts, observe the principles of personal hygiene, use protective clothing and equipment (as specified in section 8), work in well-ventilated rooms. Wash hands during breaks and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities.

Store in original, properly labeled, tightly closed containers, in a cool, dry, well-ventilated place.

7.3. Specific end use(s).

No information about the applications other than those listed in subsection 1.2.

Section 8: Exposure control/personal protection

8.1. Control parameters.

Predicted No Effect Concentration (PNEC):

For anhydrous citric acid:

PNEC Fresh water: 0,44 mg/l

PNEC Sea water: 0,044 mg/l

PNEC Fresh water sediment: 34,6 mg/kg (dry weight)

PNEC Seawater sediment: 3,46 mg/kg (dry weight)

PNEC Sewage treatment plant: > 1000 mg/l

PNEC Soil: 33,1 mg/kg (dry weight)

8.2. Exposure controls.

Personal protection:

Protective clothing should be selected appropriately for the workplace, depending on concentration and amount of the substance. The resistance of the protective clothing to chemicals should be ascertained by the manufacturer.

- respiratory protection: indicated in the case of dusting - respirator, mask with a dust filter;
- eye protection: recommended – goggles (EN 166);
- hand protection: recommended – protective gloves resistant to chemicals, e.g. made of rubber (natural, nitrile, butyl, neoprene) or PVC;

- body protection: recommended - protective clothing;
- protective and hygienic measures: change contaminated clothes. Use barrier cream. Wash hands and face after working with this substance.
- The employer is obliged to ensure that the personal protective equipment used, as well as clothing and footwear, have protective and functional properties, and ensure that they are properly washed, maintained, repaired and decontaminated.

Environmental exposure controls:

Do not allow the product to get into the sewage system, water and soil.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties.

a) physical state:	solid – crystals
b) colour:	white
c) odour:	odourless
d) melting point/freezing point:	~ 153 °C (for melting, at 1,013 hPa)
e) boiling point or initial boiling point and boiling range:	decomposition before boiling
f) flammability:	product not classified as flammable
g) lower and upper explosion limit:	not determined
h) flash point:	not determined
i) auto-ignition temperature:	not applicable
j) decomposition temperature:	not determined
k) pH:	1,7 (100 g/l H_2O)
l) kinematic viscosity:	not applicable
m) solubility:	~ 590 g/l in water (20 °C) soluble in alcohol
n) partition coefficient n-octanol/water (log value):	-0,2 to -1,8
o) vapour pressure:	$2,21x10^{-6}$ Pa (25 °C)
p) density and/or relative density:	1,665 g/cm^3 (20 °C)
q) relative vapour density:	not determined
r) particle characteristcs:	not determined

9.2. Other information.

The fraction below 100 µm was 84.1 %; the D50 of the fraction below 100 µm was at 31.99 µm.
Dissociation constant: pKa: 3.13, 4.76 and 6.4 at 25 °C.

Section 10: Stability and reactivity

10.1. Reactivity.

Under the conditions of storage and handling as intended - no reactivity.

10.2. Chemical stability.

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions.

May react dangerously with alkaline substances.

10.4. Conditions to avoid.

Heat, ignition sources, direct sunlight, moisture.

10.5. Incompatible materials.

Strong acids and bases, oxidizing and reducing agents, sodium and potassium nitrite.

10.6. Hazardous decomposition products.

Carbon oxides (CO, CO_2).

Section 11: Toxicological information

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

a) Acute toxicity

LD50 (oral, mouse): 5400 mg/kg b.w.

LD50 (dermal, rat): > 2000 mg/kg b.w.

b) Skin corrosion/irritation

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

c) Serious eye damage/irritation

Causes serious eye irritation.

d) Respiratory or skin sensitization

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

e) Germ cell mutagenicity

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

f) Carcinogenicity

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

g) Reproductive toxicity

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

h) STOT-single exposure

May cause respiratory irritation.

i) STOT-repeated exposure

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

j) Aspiration hazard

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

11.2. Information on other hazards.

No data available.

Section 12: Ecological Information

12.1. Toxicity.

Ecotoxic effects:
LC50 (Fish): 440 mg/l, 48 h
LC50 (Daphnia magna): 1535 mg/l, 24h
NOEC (Algae): 425 mg/l

12.2. Persistence and degradability.

Easily biodegradable: 97%/28 days.

12.3. Bioaccumulative potential.

Not bioaccumulative.

12.4. Mobility in soil.

No data available.

12.5. Results of PBT and vPvB assessment.

The substance does not meet the PBT and vPvB criteria.

12.6. Endocrine disrupting properties.

No data available.

12.7. Other adverse effects.

No data available.

Section 13: Disposal considerations

13.1. Waste treatment methods.

The product and packaging should be disposed of in accordance with local environmental laws and regulations.

Empty single-use packaging should be delivered to an authorized waste recipient.

Section 14: Transport Information

14.1 UN number or ID number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instrments

Not applicable

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 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a 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.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 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 (Text with EEA relevance).

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment.

Chemical Safety Report for the substance was prepared.

Section 16: Other Information.

a) revised safety data sheet- changes

First version.

b) legend to abbreviations and acronyms used in the safety data sheet

PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
CAS	Chemical Abstract Service
EC No.	is a unique seven-digit identifier that is assigned to chemical substances for regulatory purposes within the European Union by the regulatory authorities.
LD50	lethal dose, the point where 50% of test subjects exposed would die
LC50	lethal concentraction, the point where 50% of test subjects exposed would die
EC50	half maximal effective concentration
NOAEL	no observed adverse effect level
NOEC	no observed effects concentration
DNEL	Derived No-Effect Level
DMEL	Derived Minimal Effect Level
PNEC	predicted no-effect concentration with no adverse effect
UN number	is four-digit number that identify hazardous substances

c) list of relevant H phrases, hazard statements, safety phrases and/or precautionary statements- full text

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

d) trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

e) other data

The above information is prepared on the basis of current state of knowledge and relates to the product in the form in which it is used. Data relating to the product are presented in order to include safety requirements, and not to guarantee their particular properties.

In the event when conditions of application of the product are beyond control of the manufacturer, responsibility for safe use of the product is borne by the user.

The Employer is obligated to inform all employees who have contact with the product, about hazards and personal protection equipment specified in this material safety data sheet.

This material safety data sheet has been prepared on the basis of MSDS provided by the manufacturer and/or web databases and the binding regulations regarding hazardous substances and chemical agents.