

Safety Data Sheet

Complies with Annex II of REACH - Regulation (EU) 2020/878

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

1.1. Product identifier

Code:	00401033
Name	PURE CITRIC ACID - CITRIC ACID MONOHYDRATE
Chemical name and synonyms	CITRIC ACID MONOHYDRATE
IUPAC Name	CITRIC ACID MONOHYDRATE
EC number	201-069-1
CAS Number	5949-29-1
Registration Number	01-2119457026-42-****

1.2. Relevant identified uses of the substance or mixture and discouraged uses

Area of use	SU21 - Consumer Uses
Product Category	PC35 – Washing and cleaning products (including solvent-based products)
Description/Use	Anti-limescale powder detergent

1.3. Information on the safety data sheet provider

Company Name	MARBEC S.R.L.
Address	VIA CROCE ROSSA 5/i
Location and State	51037 MONTALE (PISTOIA) ITALY
	tel. +039 0573/959848

e-mail address of the competent person,

Safety Data Sheet Manager	info@marbec.it
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1.4. Emergency telephone number

For urgent information, please contact

MARBEC srl

+390573959848 8.30 a.m.-1 p.m. 2 p.m.-6 p.m. or +393348578502

Telephone number of Poison Control Centers active 24 hours a day

IRCSS Maugeri Foundation –

Pavia 0039-0382-24444

CAV Ospedali Riuniti –

Bergamo 0039-800-883300

CAV Niguarda Ca' Granda Hospital –

Milan 0039-02-66101029

CAV Careggi Hospital- Florence 0039-055-7947819

CAV Policlinico Gemelli –

Rome 0039-06-3054343

CAV Policlinico Umberto I –

Rome 0039-06 49978000

CAV Cardarelli Hospital –

Naples 0039-081 5453333

CAV Azienda Ospedaliera Integrata Verona - Verona 800011858

00401033 - CITRIC ACID MONOHYDRATE

SECTION 2. Hazard identification**2.1. Classification of the substance or mixture**

The product is classified as hazardous pursuant to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adaptations). The product therefore requires a safety data sheet that complies with the provisions of Regulation (EU) 2020/878. Any additional information regarding risks to health and/or the environment is reported in sections 11 and 12 of this sheet.

Classification and hazard statements:

Eye irritation, category 2

H319

It causes severe eye irritation.

Specific Target Organ Toxicity - Single Exposure, Category 3 H335

It can irritate the respiratory tract.

2.2. Label elements

Hazard labelling in accordance with Regulation (EC) 1272/2008 (CLP) and subsequent amendments and adaptations.

Hazard pictograms:



Warnings:

Caution

Hazard statements:

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary statements:

P261

Avoid breathing dust/fume/gas/mist/vapours/ spray.

P280

Wear eye protection/face protection.

P312

Call a POISON CENTER/doctor/.../if you feel unwell.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

P264

Wash hands thoroughly after handling.

P305+P351+P338

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

P337+P313

If eye irritation persists: Get medical advice/ attention.

Citric Acid Monohydrate
EC No.:

201-069-1

2.3. Other hazards

00401033 - CITRIC ACID MONOHYDRATE

The substance has no persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative (vPvB).

The substance has no endocrine disrupting properties.

SECTION 3. Composition/ingredient information

3.1. Substances

Contains:

Identification	Conc. %	Classification 1272/2008 (CLP)
Citric Acid Monohydrate		
INDEX -	100	Eye irritation. 2 H319, STOT SE 3 H335
CE 201-069-1		
CAS 5949-29-1		
Reg. REACH 01-2119457026-42- ****		

The full text of the hazard statements (H) can be found in section 16 of the data sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

If in doubt or if you have symptoms, contact a doctor and show him this document.

In case of more severe symptoms, call 118 for immediate medical help.

EYES: Remove, if present, contact lenses if the situation allows the operation to be carried out easily. Wash immediately and thoroughly with water for at least 15 minutes, opening the eyelids wide. Seek medical attention immediately.

SKIN: Remove contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Consult a doctor. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless expressly authorized by your doctor. Do not administer anything orally if the subject is unconscious. Seek medical attention immediately.

INHALATION: Take the subject to fresh air away from the scene of the accident. In case of respiratory symptoms (cough, dyspnea, difficulty breathing, asthma) keep the victim in a comfortable position for breathing. If necessary, administer oxygen. If breathing stops, practice artificial respiration. Seek medical attention immediately.

Protecting Rescuers

It is good practice for the rescuer who is helping a person who has been exposed to a chemical substance or mixture to wear personal protective equipment. The nature of such protections depends on the hazardousness of the substance or mixture, the mode of exposure and the extent of contamination. In the absence of other more specific indications, it is recommended to use disposable gloves in case of possible contact with biological liquids. For the type of PPE suitable for the characteristics of the substance or mixture, refer to section 8.

4.2. Main symptoms and effects, both acute and delayed

Information not available

4.3. Indication of the need for immediate medical advice and special treatment

If you feel unwell, contact a POISON CENTER / a doctor / . . .

Means to be available in the workplace for specific and immediate treatment

Running water for skin and eye washing.

SECTION 5. Firefighting measures

5.1. Extinguishing means

SUITABLE EXTINGUISHING MEANS

The means of extinguishing are the traditional ones: carbon dioxide, foam, dust and water spray.

UNSUITABLE MEANS OF EXTINGUISHING

No one in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS DUE TO EXPOSURE IN THE EVENT OF FIRE

Avoid breathing in the combustion products. The product is combustible and, when the dust is dispersed in the air in sufficient concentrations and in the presence of an ignition source, it can give explosive mixtures with air. The fire can develop or be further fueled by the solid, possibly leaking from the container, when it reaches high temperatures or by contact with ignition sources.

5.3. Recommendations for firefighters

GENERAL INFORMATION

Cool the containers with water jets to prevent the product from decomposing and developing substances that are potentially hazardous to health. Always wear full fire protection equipment. Collect extinguishing water that should not be discharged into the sewers. Dispose of contaminated water used for extinguishing and residual fire according to current regulations.

EQUIPMENT

Normal firefighting clothing, such as an open-circuit compressed air breathing apparatus (EN 137), flame-retardant suit (EN469), flame-retardant gloves (EN 659) and firefighter boots (HO A29 or A30).

SECTION 6. Measures in the event of accidental release

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation by spraying the product with water if there are no contraindications.

Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the Safety Data Sheet) to prevent contamination of the skin, eyes and personal clothing. These indications are valid both for workers and for emergency interventions.

6.2. Environmental precautions

Prevent the product from entering sewers, surface water, groundwater.

6.3. Methods and materials for containment and remediation

Collect the spilled product and place it in containers for recovery or disposal. Remove the residue with water jets if there are no contraindications.

Provide sufficient ventilation of the place affected by the leak. Evaluate the compatibility of the container to be used with the product, checking section 10. Disposal of contaminated material shall be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information regarding personal protection and disposal can be found in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

00401033 - CITRIC ACID MONOHYDRATE

Handle the product after consulting all other sections of this safety data sheet. Avoid dispersing the product into the environment. Do not eat, drink, or smoke during use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store closed containers in a well-ventilated place, away from direct sunlight. Store containers away from any incompatible materials, checking section 10.

Storage class TRGS 510 (Germany):

11

7.3. Special end-uses

Information not available

SECTION 8. Exposure/Personal Protection Controls

8.1. Control parameters

Citric Acid Monohydrate

Predicted concentration of no effect on the environment - NECP

Reference value in fresh water	0,4	mg/l
Reference value in seawater	0,44	mg/l
Reference value for freshwater sediment	3,46	mg/kg/d
Reference value for sediment in seawater	34,6	mg/kg/d
Reference value for STP microorganisms	1000	mg/l
Reference value for the land compartment	33,1	mg/kg/d
Reference value for atmosphere	VND	

VND = hazard identified but no DNEL/PNEC available; NEA = no expected exposure; NPI = no hazard identified; LOW = low danger; MED = medium danger; HIGH = high danger.

It is recommended to consider in the risk assessment process the occupational exposure limit values provided by the ACGIH for dusts not otherwise classified (PNOC respirable fraction: 3 mg/mc; PNOC inhalable fraction: 10 mg/mc). If these limits are exceeded, it is advisable to use a type P filter, the class of which (1, 2 or 3) must be chosen according to the outcome of the risk assessment. The above values do not constitute a TLV, but guide values, to be used for particles that do not have their own TLV, that are insoluble or poorly soluble in water and that have low toxicity.

8.2. Exposure Controls

Considering that the use of appropriate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace by means of effective local suction.

When choosing personal protective equipment, seek advice from your chemical suppliers if necessary.

Personal protective equipment must bear the CE marking certifying its compliance with current standards.

Provide emergency showers with visocular basin.

HAND PROTECTION

If prolonged contact with the product is expected, it is recommended to protect your hands with penetration-resistant work gloves (ref. EN 374 standard).

For the final choice of the material of the work gloves, the process of use of the product and any other products derived from it must also be evaluated. It

00401033 - CITRIC ACID MONOHYDRATE

should also be remembered that latex gloves can give rise to sensitization phenomena.

SKIN PROTECTION

Wear long-sleeved work clothes and safety footwear for professional use of category I (ref. Regulation 2016/425 and EN ISO 20344 standard). Wash with soap and water after removing protective clothing.

EYE PROTECTION

It is recommended to wear airtight protective goggles (ref. EN ISO 16321 standard).

RESPIRATORY PROTECTION

We recommend the use of a type P filtering face mask whose class (1, 2 or 3) and actual need must be defined according to the outcome of the risk assessment (ref. EN 149 standard).

ENVIRONMENTAL EXPOSURE CONTROLS

Emissions from production processes, including those from ventilation equipment, should be controlled for compliance with environmental protection legislation.

SECTION 9. Physical and chemical properties

9.1. Information on fundamental physical and chemical properties

Properties	Value	Information
Physical State	granular powder	
Color	White	
Odor	odorless	
Olfactory threshold	Out of stock	
Melting or freezing point	153 °C	
Initial boiling point	Out of stock	Note: Breaks down before boiling
Flammability	non-flammable	
Lower explosive limit	0.28 mg/l	
Upper explosive limit	2.29 mg/l	
Flash point	Out of stock	Note: Not applicable
Auto-ignition temperature	1010 °C	
Decomposition Temperature	> 175 °C	
pH	1,8	Concentration: 5 % Temperature: 25 °C
Kinematic viscosity	Out of stock	
Solubility	776 g/l	
Partition coefficient: n-octanol/water	Out of stock	
Vapour pressure	Out of stock	
Density and/or Relative Density	1.54 kg/l	Temperature: 20 °C
Relative vapor density	Out of stock	
Particle characteristics	Out of stock	

9.2. Other information

9.2.1. Information on classes of physical hazards

Information not available

00401033 - CITRIC ACID MONOHYDRATE

9.2.2. Other security features

Explosive properties Not applicable

Oxidizing properties Not applicable

SECTION 10. Stability and responsiveness**10.1. Responsiveness**

There is no particular danger of reaction with other substances under normal conditions of use.

10.2. Chemical Stability

The product is stable under normal conditions of use and storage.

10.3. Possibility of dangerous reactions

Dusts are potentially explosive when mixed with air.

10.4. Conditions to be avoided

Avoid the accumulation of dust in the environment.

10.5. Incompatible Materials

Information not available

10.6. Hazardous decomposition products

Information not available

SECTION 11. Toxicological information**11.1. Information on hazard classes defined in Regulation (EC) No 1272/2008**Metabolism, kinetics, mechanism of action and other information

Information not available

Information on probable routes of exposure

Information not available

Immediate, delayed and chronic effects from short- and long-term exposures

Information not available

Interactive effects

Information not available

00401033 - CITRIC ACID MONOHYDRATE

ACUTE TOXICITY

LD50 (Cutaneous):

> 2000 mg/kg

LD50 (Oral):

> 5400 mg/kg rat

SKIN CORROSION / SKIN IRRITATION

Does not meet the classification criteria for this hazard class

SEVERE EYE DAMAGE/EYE IRRITATION

Causes severe eye irritation

RESPIRATORY OR SKIN SENSITIZATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

May irritate the respiratory tract

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

DANGER IN CASE OF SUCTION

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with effects on human health under evaluation.

SECTION 12. Ecological information

Use according to good working practices, avoiding dispersing the product into the environment. Notify the competent authorities if the product has reached watercourses or if it has contaminated soil or vegetation.

12.1. Toxicity

LC50 - Fish

7960 mg/l/96h (Pimephales promelas)

00401033 - CITRIC ACID MONOHYDRATE

EC50 - Crustaceans

1766 mg/l/48h (Daphnia magna)

12.2. Persistence and degradability

Quickly degradable

12.3. Bioaccumulation potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of the PBT and vPvB assessment

The substance has no persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative (vPvB).

12.6. Endocrine Disrupting Properties

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with effects on the environment under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations**13.1. Waste treatment methods**

Reuse, if possible. Product residues are to be considered hazardous special waste. The hazardousness of waste containing part of this product must be assessed in accordance with the applicable legal provisions.

Disposal must be entrusted to a company authorized to manage waste, in compliance with national and possibly local legislation.

The management of waste originating from the use or dispersion of this product must be organized in compliance with the regulations relating to safety at work. See section 8 for any need for PPE supplies.

CONTAMINATED PACKAGING

Contaminated packaging must be sent for recovery or disposal in compliance with national waste management regulations.

SECTION 14. Transportation Information

The product is not to be considered dangerous under the current regulations on the transport of dangerous goods by road (A.D.R.), by rail (RID), by sea (IMDG Code) and by air (IATA).

14.1. UN number or ID number

Not applicable

14.2. Official UN transport designation

Not applicable

14.3. Transport hazard classes

Not applicable

14.4. Packaging group

Not applicable

14.5. Hazards to the environment

Not applicable

14.6. Special precautions for users

Not applicable

14.7. Bulk shipping in accordance with IMO acts

Information not applicable

SECTION 15. Regulatory Information**15.1. Laws and regulations on health, safety and the environment specific to the substance or mixture**

Seveso Category - Directive 2012/18/EU: None

Restrictions on the product or substances contained in Annex XVII Regulation (EC) 1907/2006

None

Regulation (EU) 2019/1148 – on the marketing and use of explosives precursors

Not applicable

Sostanze in Candidate List (Art. 59 REACH)

00401033 - CITRIC ACID MONOHYDRATE

Based on the available data, the product does not contain SVHC substances in a percentage $\geq$ to 0.1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to export notification Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Health Checks

Workers exposed to this chemical agent dangerous to health must be subjected to health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

15.2. Chemical Safety Assessment

A chemical safety assessment was carried out for the substance.

SECTION 16. Other information

Text of the hazard statements (H) mentioned in sections 2-3 of the sheet:

Eye Irrit. 2	Eye irritation, category 2
STOT SE 3	Specific Target Organ Toxicity - Single Exposure, Category 3
H319	It causes severe eye irritation.
H335	It can irritate the respiratory tract.

LEGEND:

- ADR: European Agreement for the Carriage of Dangerous Goods by Road
- ATE/STA: Acute Toxicity Estimation
- CAS: Chemical Abstract Service Number
- EC: Identification number in ESIS (European Repository of Existing Substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived level with no effect
- EC50: Concentration that affects 50% of the population being tested
- EmS: Emergency Schedule
- GHS: Global Harmonized System for the Classification and Labelling of Chemicals
- IATA DGR: Regulations for the Carriage of Dangerous Goods of the International Air Transport Association
- IC50: Immobilization concentration of 50% of the test population
- IMDG: International Maritime Code for the Transport of Dangerous Goods
- IMO: International Maritime Organization
- INDEX: Identification number in Annex VI of the CLP
- LC50: Lethal concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational exposure level

00401033 - CITRIC ACID MONOHYDRATE

- PBT: Persistent, bioaccumulative and toxic
- PEC: Predictable environmental concentration
- PEL: Predictable level of exposure
- PMT: Persistent, mobile, and toxic
- PNEC: Predictable no-effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulations for the International Carriage of Dangerous Goods by Train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that must not be exceeded during any time of occupational exposure.
- TWA: Weighted Average Exposure Limit
- TWA STEL: Short-Term Exposure Limit
- VOC: Volatile Organic Compound
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Aquatic hazard class (Germany).

GENERAL BIBLIOGRAPHY:

1. Regulation (EC) 1907/2006 of the European Parliament (REACH)
 2. Regulation (EC) 1272/2008 of the European Parliament (CLP)
 3. Regulation (EU) 2020/878 (Annex II REACH Regulation)
 4. Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP)
 5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
 6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
 7. Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
 8. Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
 9. Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)
 10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
 11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2019/521 (XII Atp. CLP)
 16. Delegated Regulation (EU) 2018/1480 (XIII ATP. CLP)
 17. Regulation (EU) 2019/1148
 18. Delegated Regulation (EU) 2020/217 (XIV ATP. CLP)
 19. Delegated Regulation (EU) 2020/1182 (XV Atp. CLP)
 20. Delegated Regulation (EU) 2021/643 (XVI ATP. CLP)
 21. Delegated Regulation (EU) 2021/849 (XVII Atp. CLP)
 22. Delegated Regulation (EU) 2022/692 (XVIII Atp. CLP)
 23. Delegated Regulation (EU) 2023/707
 24. Delegated Regulation (EU) 2023/1434 (XIX Atp. CLP)
 25. Delegated Regulation (EU) 2023/1435 (XX Atp. CLP)
 26. Delegated Regulation (EU) 2024/197 (XXI Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Toxicological sheet
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA Agency website
 - Database of SDS models of chemical substances - Ministry of Health and Istituto Superiore di Sanità

Note to the user:

The information contained in this sheet is based on the knowledge available to us at the date of the last version. The user must ensure that the information is suitable and complete in relation to the specific use of the product.

This document should not be construed as a guarantee of any specific property of the product.

Since the use of the product does not fall under our direct control, it is the user's obligation to observe the laws and regulations in force on hygiene and safety under their own responsibility. They do not accept responsibility for improper use.

Provide adequate training to personnel involved in the use of chemical products.

CLASSIFICATION CALCULATION METHODS

Chemical and physical hazards: The classification of the product has been derived from the criteria established by the CLP Regulation Annex I Part 2. The methods for evaluating the chemical and physical properties are given in section 9.

Health hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 3, unless otherwise indicated in section

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Page No. 13/13

00401033 - CITRIC ACID MONOHYDRATE

11.
Environmental hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 4, unless otherwise indicated in section 12.