

* **Citric acid-1-hydrate E330 (food grade) (MB)**

Date revised: 16.01.2023

10095465002

Version: 5 / GB

Master No. M-050

Print date: 8-3-2024

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

1.1. Product identifier

Trade name

Citric acid-1-hydrate E330 (food grade) (MB)

Registration no.

EC No.:	201-069-1
REACH-Registration no.	01-2119457026-42-XXXX
CAS No.	5949-29-1

Use of the substance/mixture

Food additive, Industrial use

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

Identified Uses

At the moment we have no information available for the identified uses. In the presence of these data will be included in the safety data sheet.

Uses advised against

There are no uses have been identified, advised against.

1.3. Details of the supplier of the safety data sheet

Address

Vivochem B.V.	
Darwin 5	
NL 7609 RL Almelo	
Telephone no.	+31 546 577774
Fax no.	+31 546 577701
E-mail address	kwaliteit@vivochem.nl

1.4. Emergency telephone number

National poisoning information center (NVIC) +31 (0) 88 755 8000 Only for the purpose of informing medical personnel in case of acute intoxications.

Only for the purpose of informing medical personnel in case of acute intoxications.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319
STOT SE 3	H335

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008**Hazard pictograms****Signal word**

Warning

Hazard statements

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

Precautionary statements

P261.9 Avoid breathing vapours/spray.

P280.6 Wear eye/face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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 CENTRE or doctor if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

Hazardous component(s) to be indicated on label

contains Citric acid, monohydrate

Further supplemental information

Restricted to professional users

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients**3.1. Substances****Hazardous ingredients (Regulation (EC) No. 1272/2008)****Citric acid, monohydrate**

CAS No. 5949-29-1

EINECS no. 201-069-1

Registration no. 01-2119457026-42-XXXX

Concentration \geq 50 %

Eye Irrit. 2 H319

STOT SE 3 H335

Complete text of H-phrases in Chapter 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

If the patient is likely to become unconscious, place and transport in stable sideways position. Remove soiled or soaked clothing immediately, do not allow to dry.

After inhalation

Ensure supply of fresh air. In the event of symptoms take medical treatment.

After skin contact

After contact with skin, wash immediately with plenty of water. Consult a doctor if skin irritation persists.

After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Remove contact lenses. Eye treatment by an ophthalmologist.

After ingestion

Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Take medical treatment.

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

Causes serious eye irritation. Inhalation may lead to irritation of the respiratory tract.

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

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Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide, Dry powder, Water spray jet, Foam

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible.

5.3. Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing. Avoid dust formation. Do not inhale dust. Ensure adequate ventilation.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Pick up mechanically. Rinse away rest with water. Avoid raising dust.

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid dust formation. Do not inhale dust.

Advice on protection against fire and explosion

Dust can form an explosive mixture with air. Keep away from sources of ignition - No smoking.

Dust explosion class Capable of dust explosion

7.2. Conditions for safe storage, including any incompatibilities

Provide acid-resistant floor.

Do not store together with: Oxidising agents, Alkalis

Storage class according to TRGS 510 13

Non- combustible solids

Keep container tightly closed and dry in a cool, well-ventilated place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Other information**

For technical protective measures to limit exposure see also section 7 "Handling and storage".

Predicted No Effect Concentration (PNEC)

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Citric acid, anhydrous

Type of value	PNEC		
Type	Freshwater		
Concentration	0,44		mg/l
Type of value	PNEC		
Type	Saltwater		
Concentration	0,044		mg/l
Type of value	PNEC		
Type	Freshwater sediment		
Concentration	34,6		mg/kg
Type of value	PNEC		
Type	Marine sediment		
Concentration	3,46		mg/kg
Type of value	PNEC		
Type	Soil		
Concentration	33,1		mg/kg

8.2. Exposure controls**General protective and hygiene measures**

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep separated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Hold eye wash fountain available.

Respiratory protection

Use breathing apparatus in dust-laden atmosphere. Particle filter half mask, filter P2

Hand protection

Appropriate Material	Chloroprene		
Material thickness	>= 0,6	mm	
Breakthrough time	>= 480	min	

Eye protection

Tightly fitting safety glasses

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state	Crystalline powder
Colour	white
Odour	odourless

Melting point/freezing point

Value	145	°C
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Initial boiling point and boiling range

Remarks	Not applicable
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Flammability (solid, gas)

No data available

Upper/lower flammability or explosive limits

Remarks	No data available
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Flash point

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Remarks Not applicable

Evaporation rate

Remarks No data available

Auto-ignition temperature

Value 345 °C

Decomposition temperature

Value > 170 °C

pH value

Value 1,7

Concentration/H₂O g/l**Viscosity**

Remarks No data available

Solubility(ies)

Medium Water

Value 590 g/l

Temperature 20 °C

Partition coefficient: n-octanol/water**Citric acid, monohydrate**

log Pow -1,72

Remarks Bioaccumulation is not expected

Vapour pressure

Value < 0,01 hPa

Temperature 20 °C

DensityValue 1,665 g/cm³

Temperature 20 °C

Vapour density

Remarks No data available

Particle characteristics

Remarks No data available

9.2. Other information**Odour threshold**

Remarks No data available

Evaporation rate

No data available

Explosive properties

Remarks No data available

Oxidising properties

Remarks No data available

Bulk densityValue 550 to 950 kg/m³

Temperature 20 °C

SECTION 10: Stability and reactivity**10.1. Reactivity**

No decomposition if used as prescribed.

10.2. Chemical stability

Under normal conditions of storage and use is the product stable.

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10.3. Possibility of hazardous reactions

The product is capable of a dust explosion.

10.4. Conditions to avoid

Avoid dust formation.

10.5. Incompatible materials

Reactions with strong alkalies and oxidising agents.

10.6. Hazardous decomposition products

In case of combustion evolution of dangerous gases possible.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute oral toxicity**

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

Acute oral toxicity (Components)**Citric acid, anhydrous**

Species	rat		
LD50		3000	mg/kg
Species	mouse		
LD50		5400	mg/kg

Acute dermal toxicity

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

Acute dermal toxicity (Components)**Citric acid, anhydrous**

Species	rat		
LD50	>	2000	mg/kg

Acute inhalational toxicity

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

Acute inhalative toxicity (Components)**Citric acid, anhydrous**

Species	guinea pig		
	appr. 75		mg/l
Duration of exposure	3	min	
Administration/Form	Dust/Mist		

Skin corrosion/irritation

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

Serious eye damage/irritation

evaluation irritant
The classification criteria are met.

Sensitization

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

Sensitization (Components)**Citric acid, monohydrate**

evaluation non-sensitizing

Mutagenicity

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

Mutagenicity (Components)**Citric acid, monohydrate**

No indications of genotoxicity are available.

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Reproductive toxicity

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

Reproduction toxicity (Components)**Citric acid, monohydrate**

No indications of reproduction toxicity are available.

Carcinogenicity

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

Carcinogenicity (Components)**Citric acid, monohydrate**

No indications of carcinogenic effects are available from long-term trials.

Specific Target Organ Toxicity (STOT)**Single exposure**

The classification criteria are met.

May cause respiratory irritation.

Repeated exposure

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

Aspiration hazard

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

11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information**12.1. Toxicity****Fish toxicity (Components)****Citric acid, anhydrous**

Species	golden orfe (<i>Leuciscus idus</i>)			
LC50	440	to	760	mg/l
Duration of exposure	48	h		
Method	OECD 203			
Remarks	Static system			

Daphnia toxicity (Components)**Citric acid, anhydrous**

Species	Daphnia magna			
LC50	1535			mg/l
Duration of exposure	24	h		
Method	OECD 202			
Remarks	Static system			

Algae toxicity (Components)**Citric acid, anhydrous**

Species	Scenedesmus quadricauda			
NOEC	425			mg/l
Duration of exposure	8	d		
Remarks	Static system			

Bacteria toxicity (Components)**Citric acid, anhydrous**

Species	Pseudomonas putida			
EC5	>	10000		mg/l
Duration of exposure	16	h		

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12.2. Persistence and degradability**Biodegradability (Components)****Citric acid, monohydrate**

Value	97	%
Duration of test evaluation	28	d
Method	readily degradable	
	OECD 301 B	
Value	100	%
Duration of test evaluation	19	d
Method	readily degradable	
	OECD 301 E	

12.3. Bioaccumulative potential**Partition coefficient: n-octanol/water****Citric acid, monohydrate**

log Pow	-1,72
Remarks	Bioaccumulation is not expected

Bioconcentration factor (BCF)

Remarks	No data available
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12.4. Mobility in soil

No information available.

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

The Substance do not meets PBT-criterions. The Substance do not meets vPvB-criterions.

12.6 Endocrine disrupting properties**Endocrine disrupting properties with respect to the environment**

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects**Behaviour in sewers [waste treatment plants]**

No information available.

General information / ecology

Do not discharge into the drains/surface waters/groundwater. Harmful effect due to pH shift.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations for the product**

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.
Do not allow to enter drains or water courses.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

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	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number	The product does not constitute a hazardous substance in land transport.-	The product does not constitute a hazardous substance in sea transport.-	The product does not constitute a hazardous substance in air transport.-
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)	-	-	-
14.4. Packing group	-	-	-
Label			
14.5. Environmental hazards	-	-	-

Information for all modes of transport**14.6. Special precautions for user**

No information available.

Other information**14.7 Maritime transport in bulk according to IMO instruments**

No data available

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****VOC-Content according to directive 2010/75/EU**

VOC (EU) 0 %

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

Registration status**Citric acid, anhydrous**

EINECS	listed or meets the requirements
TSCA (USA)	listed
AICS (Australian Inventory of Chemical Substances)	listed or meets the requirements
DSL (Canada)	listed
NZIOI (New Zealand)	listed or meets the requirements
ENCS (Japan)	listed or meets the requirements
PICCS (Philippines)	listed or meets the requirements
IECSC (China)	listed or meets the requirements

15.2. Chemical safety assessment

No information available.

SECTION 16: Other information**Classification and procedure used to derive the classification for mixtures according to Regulation**

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(EC) 1272/2008 [CLP]:

Eye Irrit. 2	H319
STOT SE 3	H335

Hazard statements listed in Chapter 2/3

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

CLP categories listed in Chapter 2/3

Eye Irrit. 2	Eye irritation, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Abbreviations

AC: Article Category
ACGIH: American Conference of Governmental Industrial Hygienists
ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADNR: Accord européen relatif au transport international des marchandises dangereuses par navigation sur le Rhin
ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
AGW: Arbeitsplatzgrenzwert
AICS: Australian Inventory of Chemical Substances
AOX: adsorbable organically bound halogens
ARW: Arbeitsplatzrichtwert (Germany)
ASTM: American Society for Testing And Materials
ATE: acute toxicity estimates
ATP: Adaptation to technical and scientific progress
AWsV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Germany)
BAR: Biologischer Arbeitsstoff-Referenzwert
BCF: bioconcentration factor
BetrSichV: Betriebssicherheitsverordnung (Germany)
BG: Berufsgenossenschaft (Germany)
BGW: Biologischer Grenzwert
BLW: Biologischer Leitwert
BOD: biochemical oxygen demand
CAS: Chemical Abstracts Service
cATpE: converted acute toxicity point estimate
CEA: Comité Européen des Assurances
CEFIC: European Chemical Industry Council
CESIO: Comité Européen des Agents de Surface et leurs Intermédiaires Organiques
ChemG: Chemikaliengesetz (Germany)
CMR: Cancerogen Mutagen Reprotoxic
COD: chemical oxygen demand
DFG: Deutsche Forschungsgemeinschaft
DIN: german industry standard
DMEL: Derived minimal effect level
DNEL: Derived no effect level
DOC: dissolved organic carbon
DSL: Canada Domestic Substances List
EAK: Europäischer Abfallkatalog
EbC: inhibitory concentration of growth
EC: effective concentration
EC: European Community
ECETOC: European Centre For Ecotoxicology and toxicology of Chemicals
ECHA: European Chemicals Agency
EEC: European Economic Community
EG: Europäische Gemeinschaft
EH40: List of approved workplace exposure limits
EINECS: European Inventory of Existing Commercial Chemical Substances
EKA: Expositionsäquivalente für krebserzeugende Arbeitsstoffe

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EL: effect level
ELINCS: European List of Notified Chemical Substances
EmS: Emergency Schedules
EN: european standards
ENCS: Japanese Existing and New Chemical Substances Inventory
ERC: Environmental Release Category
ErC: inhibitory concentration of the growth rate
EU: European Union
EWG: Europäische Wirtschaftsgemeinschaft
FDA: Food and Drug Administration
FMVSS: National Highway Traffic Safety Administration
GefStoffV: Gefahrstoffverordnung
GGVSee: Gefahrgutverordnung See
GHS: Globally Harmonized System of classification and Labelling of Chemicals
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IC: inhibitory concentration
ICAO: International Civil Aviation Organization
IECSC: Chinese Chemical Inventory of Existing Chemical Substances
IMDG: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
INCI: International Nomenclature of Cosmetic Ingredients
IRPTC: International Register of Potentially Toxic Chemicals
ISO: International Organization for Standardization
IUCLID: International Uniform Chemical Information Database
Cat: category
KBwS: Kommission zur Bewertung wassergefährdender Stoffe (Germany)
KECI: Korea Existing Chemicals Inventory
LC: Lethal concentration
LD: Lethal dose
LDLo: lethal dose low
LGK: storage category
LL: Lethal level
LLC: Lowest lethal concentration
LOAEL: Lowest observed adverse effect level
LOEC: Lowest observed effect concentration
LOEL: Lowest observed effect level
Log pow: logarithm of the distribution coefficient n-octanol / water
LQ: limited quantity
MAC: Maximale aanvaarde concentratie (Netherlands)
MAK: Maximale Arbeitsplatz-Konzentration
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL: Marine Pollution)
MEL: Maximum exposure limits
MITI: Ministry of International Trade and Industry (Japan)
n.a.g.: nicht anders genannt
NATEC: Naval Air Technical Data and Engineering Service Command
NLP: No-longer Polymer
NOAEC: No observed adverse effect concentration
NOAEL: no observable adverse effect level
NOEC: No observable effect concentration
NOEL: No observable effect level
NOELR: no observable effect loading rate
NZIOC: New Zealand Inventory of Chemicals
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational exposure limit
OELV: Occupational exposure limit value
OES: Occupational exposure standards

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PBT: Persistent, Bioaccumulative and Toxic
PC: Product Category
PEC: Predicted environmental concentration
PICCS: Philippine Inventory of Chemicals and Chemical Substances
PNEC: predicted no effect concentration
PNEC: Predicted no effect concentration
pOW: Octanol-water partition coefficient
PROC: Process Category
REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals
RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses
RTECS: Registry of Toxic Effects of Chemical Substances
SAE: Society of Automotive Engineers
STP: Sewage treatment plant
SU: Sector of Use
SUVA: Schweizerische Unfallversicherungsanstalt
SVHC: Substances of very high concern
TA Luft: Technische Anleitung zur Reinhaltung der Luft
ThOD: theoretical oxygen demand
TRA: targeted risk assessment
TRG: Technische Regeln Druckgase (Germany)
TRgA: Technische Regeln für gefährliche Arbeitsstoffe(Germany)
TRGS: Technische Regeln für Gefahrstoffe
TRK: Technische Richtkonzentration
TSCA: Toxic Substances Control Act (USA)
UN: United Nations
VbF: Verordnung über brennbare Flüssigkeiten
VCI: Verband der Chemischen Industrie e.V.
VDE: Verband der Elektrotechnik, Elektronik und Informatik e.V.
VDI: Verein Deutscher Ingenieure
VLEP: Valeurs Limites d'exposition Professionnelle
VOC: Volatile Organic Compound
vPvB: Very persistent and very bioaccumulative
VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe
WEL: Workplace exposure limit
WGK: water hazard class (Germany)
WHO: World Health Organization
WoE: Weight of Evidence

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
The information contained in this safety data sheet is based on our current knowledge and experience and describes the product in terms of safety requirements only. This safety data sheet is neither a Certificate of Analysis (CoA) nor a technical data sheet and must not be confused with a specification agreement and does not have the meaning of warranties of characteristics.
Uses mentioned in this safety data sheet are for general information and do not constitute a contractual agreement on a corresponding nature of the product or on a suitability for intended uses.
It is the responsibility of the recipient of the product to ensure that any property rights and existing laws and regulations are observed.