



Citric acid Monohydrate

SAFETY DATA SHEET



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH); 1272/2008 & 453/2010 (CLP)

Version: 1
Date: 28/02/2011

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
Chemical Name Citric acid
Trade name Citric acid monohydrate
CAS No. 5949-29-1
EINECS No. 201-069-1
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Identified use(s) Used as a sour agent, buffering agent and antioxidant in the food industry; a correctant in pharmaceutical industry; used in detergents, buffering and chelating, sizing and as a sequestrant.
Uses advised against No uses advised against.
- 1.3 Details of the supplier of the Safety Data Sheet**
Company Identification Weifang Ensign Industry Co., Ltd.
No. 1567, Changsheng Street, Changle, Weifang, 262400, Shandong Province, China
Telephone 0086-536-6298198
Fax No 0086-536-6234587
Contact name Xiaoming Yi
e mail sales@ensignworld.com
- 1.4 Emergency telephone number** 0086-536-6298198

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
2.1.1 Regulation (EC) No. 1272/2008 (CLP) Warning H319: Causes serious eye irritation
2.1.2 Directive 67/548/EEC & Directive 1999/45/EC Xi; Irritant, R36
2.2 Label elements
2.2.1 According to Regulation (EC) No. 1272/2008 & 453/2010 (CLP)
Hazard Pictogram 
Signal word(s) Warning
Hazard statement(s) H319: Causes serious eye irritation
Precautionary statement(s) P264. Wash hands thoroughly after handling.
P280 Wear eye 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.
P337+P313: If eye irritation persists: Get medical advice/attention.
- 2.2.2 According to Directive 67/548/EEC & Directive 1999/45/EC**
Hazard Symbol  Irritant
Risk Phrases R36. Irritating to eye
Safety Phrases S26. Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- 2.3 Other hazards** Not known
2.4 Additional Information Not known



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Composition	%W/W	EC No.	CAS No
Citric acid	99.5 –100.5	201-069-1	5949-29-1

3.2 Mixture. Not applicable

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

Move to fresh air.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If irritation persists, call a physician.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion

Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Serious eye damage/eye irritation: Eye Irrit. 2

4.3 Indication of immediate medical attention and special treatment needed

Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

5.1.1 Suitable Extinguishing Media

Use alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.1.2. Unsuitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Oxides of carbon

5.3 Advice for fire-fighters

In the event of fire, wear self-contained breathing apparatus and wear suitable protective clothing. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations

5.4 Additional information

Explosion hazard from the generation of dust.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2 Environmental precautions

Do not flush substance into surface water or sewage system.

6.3 Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4 Reference to other sections

Section 8

6.5 Additional Information

Not known

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Use only in well-ventilated areas. Do not breathe vapours/dust
Keep locked up or in an area accessible only to qualified staff

Storage

Store in tightly closed original container in a dry, cool and well ventilated place.



Incompatible materials

Keep in original container.
Strong oxidising substances, strong alkalis.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits No values assigned

8.1.2 Biological limit value No values assigned

8.2 PNECs and DNELs

DNELs - Health

No true DNEL for systemic toxicity can be derived. Local effects, eye irritation should be considered.

PNEC/PEC - Environment

Compartment	PNEC
Aquatic PNECaqua – freshwater (mg/l)	0.44
PNECaqua – marine water (mg/l)	0.044
PNECfreshwater-sediment (mg/kg d.w.)	3.46. (Equivalent to 0.752 mg/kg wwt)
The PNECmarine-sediment mg/kg d.w.)	34.6. (Equivalent to 7.52 mg/kg wwt)
Terrestrial (PNECsoil mg/kg d.w.)	33.1
Sewage treatment plant PNEC STP (mg/l)	>1000
Atmospheric Compartment	Not applicable

8.3 Exposure controls

Minimise the risk of dust inhalation.

8.3.1 Appropriate engineering controls

Provide adequate ventilation.

8.3.2 Personal protection equipment

Eye/face protection

Safety glasses with side-shields



Skin protection (Hand protection/ Other)

Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday. Protective gloves must satisfy the specifications of EU Directive 89/686/EEC and EN 374



Respiratory protection

Provide adequate ventilation. Wear respirator where dust level exceeds 10 mg/m³.



Thermal hazards

Not applicable

8.3.3 Environmental Exposure Controls

Do not allow to enter drains, sewers or watercourses

8.3.4 Hygiene measures

Do not smoke in the work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Solid, crystalline
Colour	White
Odour	Odourless
pH (Value)	1.7 (100g/l)
Melting Point	Approx. 153 °C at 1,013 hPa
Boiling point/boiling range (°C):	Decomposes before boiling
Flash Point (°C)	Not known



	Flammability	Non flammable
	Density	1.665 g/cm ³ at 20°C
	Solubility (Water)	590 g/L at 20°C
	Solubility (Other)	Soluble in alcohol
	Partition Coefficient (Log Kow: -n-Octanol/water)	-0.2 to -1.8
	Decomposition Temperature (°C)	Not known
	Explosive properties	Not explosive
	Oxidising properties	Not oxidising
9.2	Other information	The fraction below 100 µm = 84.1%; the D50 of the fraction below 100 µm = at 31.99 µm.
	Granulometry	
	Dissociation constant	pKa: 3.13, 4.76 and 6.4 at 25°C

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Reacts with alkaline materials
10.2	Chemical stability	Stable under normal conditions
10.3	Conditions to avoid	Exposure to heat and moisture.
10.4	Incompatible materials	Sodium nitrite, potassium nitrite
10.5	Hazardous Decomposition Product(s)	Oxides of carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects	
11.1.1	Substances	
	Acute toxicity	
	Ingestion LD50 (mouse)	5400 mg/kg bw
	Inhalation	No data
	Skin Contact. LD50 (dermal):	>2000 mg/kg bw
	Skin corrosion/irritation	Mild skin irritant
	Eye Contact	Irritating
	Respiratory or skin sensitization –skin	Not a sensitizer
	Mutagenicity	Not a mutagen
	Carcinogenicity	Not a carcinogen
	Reproductive toxicity	Not a reproductive toxin
	STOT - single exposure	Not known
	STOT - repeated exposure	Not known
	Aspiration hazard	Not known
11.2	Other information	Not known

SECTION 12: ECOLOGICAL INFORMATION

12.1	Toxicity	
12.1.1	Fish LC50 (48hr)	440 mg/l
12.1.2	D. Magna LC 50 (24hr)	1535 mg/l
12.1.3	Algae NOEC (8 d mat. (nominal) based on cell density	425 mg/l
12.2	Persistence and degradability	Biodegradable
12.3	Bioaccumulative potential	No expected to bioaccumulate
12.4	Mobility in soil	Not applicable
12.5	Results of PBT and vPvB assessment	Not a PBT or a vPvB
12.6	Other adverse effects	Not known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods	Disposal to licensed waste disposal site in accordance with local Waste Disposal
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13.2	Additional Information	Authority. Not known
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SECTION 14: TRANSPORT INFORMATION

14.1	Land transport (ADR/RID)	Not subject to transport regulations.
14.2	Sea transport (IMDG)	Not subject to transport regulations.
14.3	Air transport (ICAO/IATA)	Not subject to transport regulations.
14.4	Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not known

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture substance or mixture	
15.1.1	EU regulations	User to follow EU directives and regulations
	Authorisations and/or restrictions on use	Not applicable
15.1.2	National regulations	User to follow national regulations

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Version 1.

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration

References:

Chemical Safety Report for citric acid and citrates
Regulation (EC) No. 1272/2008 & 453/2010 (CLP)
Directive 67/548/EEC & Directive 1999/45/EC

Risk Phrases and Safety Phrases

R36: Irritating to eyes

S26: Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

Hazard statement(s) and Precautionary statement(s)

H319: Causes serious eye irritation

P264: Wash hands thoroughly after handling.

P280: Wear eye 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.

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

Training advice: Ensure staff and workers receive adequate training with regular updates in the handling of chemicals

Additional Information. Not known

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