

Safety data sheet*according to 1907/2006/EC, Article 31*

Revision 05.11.2021

Version number 4

Superseded version: No 3 /15.06.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** Citric Acid Monohydrate**CAS number:** 5949-29-1**EC number:**

201-069-1

Index number:

607-750-00-3

1.2 Relevant identified uses of the substance or mixture and uses advised against**Application of the substance / the preparation:**

Formulation

Intermediate

Cleaning products

Personal care products

Paper industry

Cement retardation products

Polymers and plastics

Scale inhibition in oilfield water systems

Textile industry

Coatings and paints

Photographic processing

Anti-scalant, complexing agent in water treatment systems

Treatment of metal surfaces

Cleaning of metal surfaces

Agricultural applications

Laboratory reagent

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

SHANDONG ENSIGN INDUSTRY CO.,LTD.

No.1567, Changsheng Street, Changle, Weifang, Shandong, China

1.4 Emergency telephone number(s): 0086-536-6298125**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008:**

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:

GHS07

Signal word: Warning

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Trade name: Citric Acid Monohydrate**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/doctor if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards**Results of PBT and vPvB assessment**

PBT: No PBT.
vPvB: No vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances****CAS Number. Description.**

5949-29-1 Citric Acid Monohydrate

Identification number(s)**EC number:** 201-069-1**Index number:** 607-750-00-3**Nanofom** Not applicable.**SECTION 4: First aid measures****4.1 Description of first aid measures****After inhalation:** Move patient to fresh air, if symptoms persist consult a doctor.**After skin contact:**

Immediately rinse with water.
If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.
Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Severe eye irritation. Cough.
Risks : Causes serious eye irritation. May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** Water with full jet.**5.2 Special hazards arising from the substance or mixture**

Carbon dioxide (CO₂)
Carbon monoxide (CO)

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Trade name: Citric Acid Monohydrate**5.3 Advice for firefighters****Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

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

Avoid dust formation.

Ensure adequate ventilation.

Use personal protective equipment. Keep unprotected persons away.

Avoid inhaling dust and fumes.

Avoid contact with skin and eyes.

6.2 Environmental precautions No special measures required.**6.3 Methods and material for containment and cleaning up**

Send for recovery or disposal in suitable receptacles.

Non-sparking tools should be used.

Retrieve the product by mechanical means.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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

Keep away from sources of ignition.

Prevent formation of dust.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

Information about fire - and explosion protection: No special measures required.**7.2 Conditions for safe storage, including any incompatibilities****Requirements to be met by storerooms and receptacles:**

Store in a dry, cool and well-ventilated area.

Keep container tightly closed.

Provide acid-resistant floor.

Information about storage in one common storage facility:

Store away from strong bases and oxidizing agents.

7.3 Specific end use(s): No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:** Not required.**PNECs**

PNEC	0.44 mg/L (Water (Freshwater))
	0.044 mg/L (Water (Marine Water))
	>1,000 mg/L (Sewage Treatment Plant (STP))
PNEC	3.46 mg/kg sedim. dw (Sediment (Marine Water))
	34.6 mg/kg sedim. dw (Sediment (Freshwater))
PNEC	33.1 mg/kg soil dw (Soil)

Additional information: The lists valid during the making were used as basis.

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8.2 Exposure controls

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
Immediately remove all soiled and contaminated clothing
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Filter P2

Hand protection



Protective gloves.

Eye/face protection



Safety goggles (EN 166).

Have an eye wash station available.

Body protection: Protective work clothing.

Environmental exposure controls

Comply with local and national law.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Solid.
Colour:	White.
Odour:	Odourless.
Odour threshold:	Not determined.
Melting point/freezing point:	153 °C
Boiling point or initial boiling point and boiling range	Decomposes before boiling. Product is not flammable.
Flammability	
Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
Decomposition temperature:	>175 °C
pH	Not determined.
Viscosity:	
Kinematic viscosity	Not applicable.
VOC (EC):	
Dynamic:	Not applicable.
Solubility	
Water at 20 °C:	592 g/l
Partition coefficient n-octanol/water (log value)	-1.6 to -1.8
Vapour pressure at 25 °C:	2.2E-6 Pa
Density and/or relative density	
Relative density at 20 °C	1.665
Vapour density	Not applicable.
Particle characteristics	The fraction below 100 µm was 84.1%; the D50 of the fraction below 100 µm was at 31.99 µm.

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Trade name: Citric Acid Monohydrate**9.2 Other information****Appearance:****Form:**

Crystalline

Ignition temperature:

Not applicable.

Explosive properties:

Product does not present an explosion hazard.

Softening point/range**Oxidising properties**

Not oxidising.

Evaporation rate

Not applicable.

Information with regard to physical hazard classes**Explosives**

Not applicable.

Flammable gases

Not applicable.

Aerosols

Not applicable.

Oxidising gases

Not applicable.

Gases under pressure

Not applicable.

Flammable liquids

Not applicable.

Flammable solids

Not applicable.

Self-reactive substances and mixtures

Not applicable.

Pyrophoric liquids

Not applicable.

Pyrophoric solids

Not applicable.

Self-heating substances and mixtures

Not applicable.

Substances and mixtures, which emit flammable gases in contact with water

Not applicable.

Oxidising liquids

Not applicable.

Oxidising solids

Not applicable.

Organic peroxides

Not applicable.

Corrosive to metals

Not applicable.

Desensitised explosives

Not applicable.

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability** Stable under normal circumstances.**10.3 Possibility of hazardous reactions** No dangerous reactions known.**10.4 Conditions to avoid** Avoid all sources of ignition: heat, sparks, open flames.**10.5 Incompatible materials**

Strong bases

Oxidizing agents

10.6 Hazardous decomposition products

Carbon dioxide

Carbon monoxide

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values:**

Oral LD50 5,400 mg/Kg bw (Mouse) (OECD401)

Dermal LD50 >2,000 mg/Kg bw (Rat) (OECD402)

Skin corrosion/irritation: Based on available data, the classification criteria are not met.**Serious eye damage/irritation:** Causes serious eye irritation.**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.**Carcinogenicity:** Based on available data, the classification criteria are not met.**Reproductive toxicity:** Based on available data, the classification criteria are not met.

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Trade name: Citric Acid Monohydrate**STOT-single exposure:** May cause respiratory irritation.**STOT-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****11.2.1 Endocrine disrupting properties** Substance is not listed.**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

LC50/48h	440 mg/L (Fish) (OECD 203)
NOEC	425 mg/L (Algae)
LC50/24h	1,535 mg/L (Daphnia Magna)

12.2 Persistence and degradability Easily biodegradable**12.3 Bioaccumulative potential** Does not accumulate in organisms.**12.4 Mobility in soil** pKa: 3.13, 4.76 and 6.4 at 25°C**12.5 Results of PBT and vPvB assessment****PBT:** No PBT.**vPvB:** No vPvB.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects No further relevant information available.**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation:** Disposal must be made in accordance with official regulations.**Uncleaned packaging:****Recommendation:**

Packaging that may not be cleansed must be disposed of in the same manner as the product.

SECTION 14: Transport information**14.1 UN number or ID number****ADR, ADN, IMDG, IATA**

Not applicable.

14.2 UN proper shipping name**ADR, ADN, IMDG, IATA**

Not applicable.

14.3 Transport hazard class(es)**ADR, ADN, IMDG, IATA****Class**

Not applicable.

14.4 Packing group**ADR, IMDG, IATA**

Not applicable.

14.5 Environmental hazards**Marine pollutant:**

No

14.6 Special precautions for user

Not applicable.

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

Not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

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Trade name: Citric Acid Monohydrate**Quantities:****Canada Non-Domestic Substances List (NDSL)** Substance is not listed.**Directive 2012/18/EU****Named dangerous substances - ANNEX I** Substance is not listed.**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

REGULATION (EU) 2019/1148**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.**Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

Substance is not listed.

15.2 Chemical safety assessment A Chemical Safety Assessment has been carried out.**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Date of previous version: 05.11.2021**Version number of previous version:** 3**Abbreviations and acronyms:**

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 Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**

It was updated according to Commission Regulation (EU) 2020/878.

H335 was added in section 2.