

## Safety Data Sheet

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### Section 1. Identification of the substance/mixture and of the company/undertaking

**Product identifier:**

Product name: Citric acid anhydrous

Reference number(SDS): 26045jis\_J\_E1-3

**Product type:**

Reagent

**Details of the supplier of the safety data sheet**

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

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### Section 2. Hazards identification

**GHS classification and label elements of the product****Classification of the substance or mixture****HEALTH HAZARDS**

Serious eye damage/eye irritation: Category 2A

(Note) GHS classification without description: Not classified/Classification not possible

**Label elements**

Signal word: Warning

**HAZARD STATEMENT**

H319-Causes serious eye irritation

**PRECAUTIONARY STATEMENT****Prevention**

Wash contaminated parts thoroughly after handling.

Wear eye protection/face protection.

**Response**

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

If eye irritation persists: Get medical advice/attention.

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### Section 3. Composition/information on ingredients

**Mixture/Substance selection:****Substance**

Ingredient name: Citric acid

Content (%): 99.5 &lt;

Chemical formula: C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>

Chemicals No, Japan: 2-1318

CAS No.: 77-92-9

MW: 192.12

EC No.: 201-069-1

**Section 4. First-aid measures**

## Descriptions of first-aid measures

**IF INHALED**

Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If skin irritation or rash occurs: Get medical advice/attention.

**IF IN EYES**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**IF SWALLOWED**

Rinse mouth.  
Call a POISON CENTER/doctor/physician if you feel unwell.

## Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Abdominal pain. Cough. Shortness of breath. Sore throat.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes. Redness of the skin. Pain of the eyes.

## Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

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**Section 5. Fire-fighting measures**

## Extinguishing media

## Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

## Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

## Specific hazards arising from the substance or mixture

Containers may explode when heated.  
Fire may produce irritating, corrosive and/or toxic gases.

## Advice for firefighters

## Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

## Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

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**Section 6. Accidental release measures**

## Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.  
Wear proper protective equipment.

## Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

## Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.  
If appropriate, moisten first to prevent dusting.

Wash away remainder with plenty of water.

Preventive measures for secondary accident

Collect spillage.

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## Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

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

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves/protective clothing/eye protection/face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Bases, Oxidizing agents, Metal nitrates, Metals should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Storage

Conditions for safe storage

Store in a well-ventilated place.

Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See

Section 8 for exposure controls and personal protection recommendations.

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## Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

Adopted value

Adopted value in JSOH is not available.

Adopted value in ACGIH is not available.

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Select and wear respiratory protection in accordance with approved standards (e.g. JIS T8150).

Recommended respiratory protection: Dust mask

**Hand protection**

Wear protective gloves.

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

**Eye protection**

Wear safety glasses with side-shields.

Wear eye/face protection in accordance with approved standards (e.g. JIS T8147).

**Skin and body protection**

Wear impervious clothing and boots in case of repeated or prolonged treatment.

Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

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**Section 9. Physical and Chemical Properties****Information on basic physical and chemical properties**

Physical state: Crystals or crystalline powder

Color: Colorless or white

Odor: Odorless

Odor threshold data is not available.

Melting point/Freezing point: 153°C

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 0.28 vol %

Upper explosion limit: 2.29 vol %

Flash point: 100°C

Auto-ignition temperature: 1010°C (Powder)

Decomposition temperature: Not measurable  $\geq 175^\circ\text{C}$

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: 1.8 (50g/L, 25°C)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 59 g/100 ml (20°C)

Solubility in solvent: Very soluble in ethanol; soluble in ether, ethyl acetate.

n-Octanol/water partition coefficient:  $\log P_{ow} = -1.7$

Vapor pressure data is not available.

Density and/or relative density: 1.665g/cm<sup>3</sup>(20°C)

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Particle characteristics data is not available.

**Other information**

Critical temperature data is not available.

Evaporation rate data is not available.

VOC data is not available.

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**Section 10. Stability and Reactivity****Reactivity**

Reactivity data is not available.

**Chemical stability**

Stable under normal storage/handling conditions.

**Possibility of hazardous reactions**

Dust explosion possible if in powder or granular form, mixed with air.

The aqueous solution of this product is a medium strong acid.

Reacts with oxidants and bases.

Attacks metals.

**Conditions to avoid**

Contact with incompatible materials.

Open flames. Heating.

**Incompatible materials**

Bases, Oxidizing agents, Metal nitrates, Metals

**Hazardous decomposition products**

Carbon oxides

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**Section 11. Toxicological Information****Information on toxicological effects****Acute toxicity****Acute toxicity (Oral)**

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

rat LD50=3000~12000mg/kg (SIDS, 2001)

**Acute toxicity (Dermal)**

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

**Acute toxicity (Inhalation)**

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

**Irritant properties****Skin corrosion/irritation**

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[Company proprietary data]

Rabbit (OECD TG404) : slightly irritating (SIDS, 2001)

**Serious eye damage/irritation**

[Product]

Category 2A, Causes serious eye irritation

[Data for components of the product]

rabbit 750 µg/24H ; SEVERE(SIDS,2001)

rabbit (OECD TG405) : avg. cornea score = 2.8 (SIDS, 2001)

**Sensitization****Respiratory sensitization**

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Skin sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Germ cell mutagenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Carcinogenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Reproductive toxicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Specific target organ toxicity (STOT)

## STOT-single exposure

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## STOT-repeated exposure

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Aspiration hazard

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

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**Section 12. Ecological Information**

## Toxicity

## Aquatic toxicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

Fish (*Leuciscus idus*) LC50 = 440~760 mg/L/96hr (SIDS, 2001)

## Water solubility

[Data for components of the product]

59 g/100 ml (20°C) (ICSC, 1998)

## Persistence and degradability

[Data for components of the product]

BOD\_Degradation : 77% (J-CHECK)

**Bioaccumulative potential**

[Data for components of the product]

log Pow=-1.7 (ICSC, 1998)

**Mobility in soil**

Mobility in soil data is not available.

**Other adverse effects**

Ozone depleting chemical data is not available.

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**Section 13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Dispose of contents/container in accordance with local/national regulation.

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**Section 14. Transport Information****UN No., UN CLASS**

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

**IATA (Dangerous Goods Regulations)**

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

**Environmental hazards**

Marine pollutants (yes/no) : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable to Transport in bulk according to Annex II of MARPOL and the IBC Code

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**Section 15. Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory

77-92-9

All components are listed or exempted.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

**Chemical safety assessment**

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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**Section 16. Other information****GHS classification and labelling**

H319–Serious eye damage/eye irritation, Category 2A: H319 Causes serious eye irritation

**References and sources for data**

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2022 Edition (Incorporating Amendment 41–22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2024 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2023 Recommendation on TLVs (JSOH)

Notification No. 0111–1 (January 11, 2022), Chemical Hazards Control Division, Industrial

Safety and Health Department, Labour Standards Bureau, MHLW in Japan

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.27 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIP"

([https://www.chem-info.nite.go.jp/chem/chrip/chrip\\_search/systemTop](https://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop))

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

**Abbreviations and acronyms**

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)

EPA (US Environmental Protection Agency)

NTP (US National Toxicology Program)

METI (Ministry of Economy, Trade and Industry in Japan)

MHLW (Ministry of Health, Labour and Welfare in Japan)

MOE (Ministry of the Environment in Japan)

JSOH (Japan Society for Occupational Health)

ISHA (Industrial Safety and Health Act in Japan)

CSCL (Chemical Substances Control Law in Japan)

EU (European Union)

EC50 (Effective Concentration, 50%)

NOEC (No Observed Effect Concentration)

BOD (Biochemical Oxygen Demand)

COD (Chemical Oxygen Demand)

BCF (Bioconcentration Factor)

anh (anhydride)

**General Disclaimer**

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2022).