





Citric Acid Anhydrous SAFETY DATA SHEET

Version: 1
Date: 15/05/2015

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

| | |
|--|--|
| 1.1 Product identifier | |
| Chemical Name | Citric acid |
| Trade name | Citric acid anhydrous |
| CAS No. | 77-92-9 |
| 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 | SUNSHINE BIOTECH INTERNATIONAL CO.,LTD 188 MOO 4 TAMBOL THATOOM,PRACHINBURI THAILAND |
| Telephone | 0066 37278800 |
| Fax No | 0066 37278801 |
| Contact name | Elaine Yang |
| e mail | Elaineysunshine@gmail.com |
| 1.4 Emergency telephone number | 0066 37278800 SUNSHINE BIOTECH INTERNATIONAL CO.,LTD |
| Opening hours | 24 hours |

SECTION 2: HAZARDS IDENTIFICATION

| | |
|---|--|
| 2.1 Classification of the substance or mixture | |
| 2.1. Regulation (EC) No. 1272/2008 (CLP) | Warning.H319: Causes serious eye irritation |
| 2.1. 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), OSHA HCS 29 CFR 1910.1200 | |
| Hazard Pictogram |  |
| Signal word(s) | Warning |
| Hazard statement(s) | 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 |  |
| Risk Phrases | R36. Irritating to eye |
| Safety Phrases | S26. Avoid contact with eyes. In case of contact with eyes, immediately with plenty of water and seek medical advice |
| 2.3 Other hazards | Not known |
| 2.4 Additional Information | Not known |



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

| Composition | %W/W | EC | CAS |
|-------------|-------------|-----------|---------|
| Citric acid | 99.5 –100.5 | 201-069-1 | 77-92-9 |

3.2 Mixture. Not applicable

SECTION 4: FIRST AID MEASURES



First Aid

For Eye Contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

For Skin Contact: Flush immediately with plenty of water and remove contaminated clothing. Call an ambulance, continue to rinse during transportation to hospital and take along these instructions.

In case of Ingestion: Never give liquid to an unconscious person.

In case of Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped.

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.

Use only in well-ventilated areas. Do not breathe vapours/dust

7.2 Conditions for safe storage, including any incompatibilities

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.



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Incompatible materials

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1 Occupational Exposure Limits No values

8.1 Biological limit value No values assigned

8.2 PNECs and DNELs

DNELs - Health

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

PNEC/PEC – Environment

| Compartment | PN |
|--|---------------------------------------|
| Aquatic PNEC aqua – freshwater (mg/l) | 0.465 |
| PNEC aqua – marine water (mg/l) | 0.0465 |
| PNEC freshwater-sediment (mg/kg d.w.) | 3.52. (Equivalent to 0.752 mg/kg wwt) |
| The PNEC marine-sediment mg/kg d.w. | 35.2. (Equivalent to 7.52 mg/kg wwt) |
| Terrestrial (PNEC soil mg/kg d.w.) | 34.2 |
| Sewage treatment plant PNEC STP (mg/l) | >1050 |
| Atmospheric Compartment | Not applicable |

8.3 Exposure controls

Minimise the risk of dust

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) | 1.75(100g/l) |
| Melting Point | Approx. 153 °C at 1,013 hPa |
| Boiling point/boiling range (°C): | Decomposes before boiling |
| Flash Point (°C) | Not known |



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| Flammability | Non flammable |
| Density | 1.542 g/cm ³ at 20°C |
| Solubility (Water) | 750 g/L at 20°C |
| Solubility (Other) | Soluble in alcohol |
| Partition Coefficient (Log Kow: -n-Octanol/water) | -0.1 to -1.7 |
| 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 | pKa: 3.13, 4.76 and 6.4 at 25°C |
| Dissociation constant | |

SECTION 10: STABILITY AND REACTIVITY

| | |
|------------------------------------|---------------------------|
| 10. Reactivity | Reacts with alkaline |
| 10. Chemical stability | Stable under normal |
| 10. Conditions to avoid | Exposure to heat and |
| 10. Incompatible materials | Sodium nitrite, potassium |
| 10. Hazardous Decomposition | Oxides of carbon. |
| 5 Product(s) | |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|--|--------------------|
| 11.1 Information on toxicological effects | |
| 11.1. Substances | |
| Acute toxicity | |
| Ingestion LD50 (mouse) | 5050 mg/kg bw |
| Inhalation | No data |
| Skin Contact. LD50 (dermal): | >1845 mg/kg bw |
| Skin corrosion/irritation | Mild skin irritant |
| Eye Contact | Irritating |
| Respiratory or skin sensitization – | Not a sensitizer |
| Mutagenicity | Not a mutagen |
| Carcinogenicity | Not a carcinogen |
| Reproductive toxicity | Not a reproductive |
| 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) | 415 mg/l |
| 12.1.2 D. Magna LC 50 (24hr) | 1460 mg/l |
| 12.1.3 Algae NOEC (8 d mat. (nominal) based on cell density) | 408 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

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
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. California SCAQMD Rule 443.1 VOC'S:
Vapor Pressure: 0.00kPa at 25 °C
CALIFORNIA PROPOSITION 65:
California Safe Drinking Water and Toxic Enforcement Act of 1986
(Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.
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 No.

1272/2008 & 453/2010 (CLP) ,

OSHA HCS 29 CFR 1910.1200

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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