

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/03/2024

Reviewed on 07/03/2024

1 Identification

- **Product identifier**
- **Trade name:** Citric Acid Anhydrous, Reagent ACS Grade
- **Article number:** C5512
- **CAS Number:**
77-92-9
- **EC number:**
201-069-1
- **Index number:**
607-750-00-3
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586
- **Information department:**
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**
Chemtec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Eye Irritation 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

Combustible Dust

May form combustible dust concentrations in air.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

May form combustible dust concentrations in air.

- **Precautionary statements**

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

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 07/03/2024

Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 1)

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

If on skin: Wash with plenty of water.

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

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Store in a dry place. Store in a closed container.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

* 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

CAS: 77-92-9 citric acid

· **Identification number(s)**

· **EC number:** 201-069-1

· **Index number:** 607-750-00-3

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

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

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

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Reviewed on 07/03/2024

Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 4)

Safety Data Sheet

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Printing date 07/03/2024

Reviewed on 07/03/2024

Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 3)

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline powder

Color: White

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** 1.8

· **Change in condition**

Melting point/Melting range: 153-159 °C (307.4-318.2 °F)

Boiling point/Boiling range: Undetermined.

· **Flash point:** >93 °C (>199.4 °F)

· **Flammability (solid, gaseous):** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: 8 Vol %

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/03/2024

Reviewed on 07/03/2024

Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 4)

| | |
|---|--|
| Upper: | Not determined. |
| · Vapor pressure: | Not applicable. |
| · Density at 20 °C (68 °F): | 1.665 g/cm ³ (13.89443 lbs/gal) |
| · Relative density | Not determined. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Soluble. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/03/2024

Reviewed on 07/03/2024

Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 5)

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, ADN, IMDG, IATA** Not regulated

· **UN proper shipping name**

· **DOT, ADN, IMDG, IATA** Not regulated

· **Transport hazard class(es)**

· **DOT, ADN, IMDG, IATA**

· **Class** Not regulated

· **Packing group**

· **DOT, IMDG, IATA** Not regulated

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of**

MARPOL73/78 and the IBC Code Not applicable.

· **UN "Model Regulation":**

Not regulated

15 Regulatory information

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

No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):** Substance is not listed.

· **Section 313 (Specific toxic chemical listings):** Substance is not listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

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Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 6)

- **TSCA (Toxic Substances Control Act): ACTIVE**
- **Hazardous Air Pollutants Substance is not listed.**
- **Proposition 65**
- **Chemicals known to cause cancer: Substance is not listed.**
- **Chemicals known to cause reproductive toxicity for females: Substance is not listed.**
- **Chemicals known to cause reproductive toxicity for males: Substance is not listed.**
- **Chemicals known to cause developmental toxicity: Substance is not listed.**
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency) Substance is not listed.**
- **TLV (Threshold Limit Value) Substance is not listed.**
- **NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
 - Causes skin irritation.
 - Causes serious eye irritation.
 - May cause respiratory irritation.
 - May form combustible dust concentrations in air.
- **Precautionary statements**
 - Avoid breathing dust/fume/gas/mist/vapors/spray
 - Wash thoroughly after handling.
 - Use only outdoors or in a well-ventilated area.
 - Wear protective gloves / eye protection / face protection.
 - If on skin: Wash with plenty of water.
 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - Call a poison center/doctor if you feel unwell.
 - Specific treatment (see on this label).
 - Take off contaminated clothing and wash it before reuse.
 - If skin irritation occurs: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - Store in a dry place. Store in a closed container.
 - Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 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.

- **Department issuing SDS:** Environment protection department.
- **Contact:**
 - Date of Preparation / Last Revision:
- **Date of preparation / last revision**
 - Revision 1.2 07/03/2024: Reviewed SDS for accuracy. MH/STN
 - 07/03/2024 / -

(Contd. on page 8)

-US

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Trade name: Citric Acid Anhydrous, Reagent ACS Grade

(Contd. of page 7)

· Abbreviations and acronyms:*IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Irritation 2: Skin corrosion/irritation – Category 2**Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A**Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3***· * Data compared to the previous version altered.**

US