Product Name	Citric Acid anhydrous

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

1.1. Product identification:

Product Description: Citric acid anhydrous

Synonyms: 2-Hydroxy-1,2,3-propanetricarboxylic acid

CAS-No: 77-92-9

EC-No.: 201-069-1

Molecular Formula: $C_6H_8O_7$

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Recommended Use: Laboratory reagents, analysis, manufacturing substance, Used as pharma Excipient.

1.3. Details of the supplier of the safety data sheet:

- **Company** — **Finar Limited**
  184-186/P, Chacharwadi Vasna,
  Sarkhej-Bavla Highway,
  Ta.: Sanand, Dist.: Ahmedabad-382110, Gujarat, India.
  Web: www.finarchemicals.com
- **E-Mail Address** — safety.finar@actylis.com; info.finar@actylis.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717

Product Name	Citric Acid anhydrous

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labeling according Regulation (EC) No 1272/2008

Pictogram

Signal word: Warning

Hazard statement(s)

H319 Causes serious eye irritation.

Precautionary statement(s)

Response

P264 Wash skin thoroughly after handling

P280 Wear eye/face protection

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

P337 + P313 If eye irritation persists, get medical advice/attention.

Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other Hazards:

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Citric acid anhydrous

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Citric acid anhydrous	77-92-9	201-069-1	> 95

Product Name	Citric Acid anhydrous

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**
  Consult a physician. Show this safety data sheet to the doctor in attendance.
- **If inhaled**
  If breathed in, move person into fresh air. If not breathing, give artificial respiration.
  Consult a physician.
- **If Contact with skin**
  Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
- **In case of eye contact**
  Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **If swallowed**
  Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed:

Irritant effects, pain, Bloody vomiting

4.3. Indication of any immediate medical attention and special treatment needed:

No information Available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media- For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Combustible.

Risk of dust explosion.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3. Advice for firefighters:

Special protective equipment for firefighters:

In the event of fire, wear self-contained breathing apparatus.

5.4 Further Information:

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Product Name	Citric Acid anhydrous

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

7.2. Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Components with workplace control parameters

8.2. Exposure Controls:

Appropriate Engineering Controls:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See section 7.1.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye & Face Protection-

Safety glasses

Hand Protection – Use nitrile rubber gloves

Body Protection-

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection-

Required when dusts are generated. Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances. The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental Exposure Controls-

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** White
- **Physical State:** Solid
- **Odor:** Odorless
- **Odor Threshold:** No data available
- **pH:** 1.7
- **Melting Point:** 153 °C
- **Critical Temperature:** No data available
- **Vapor Pressure:** < 0.1 hPa at 20 °C
- **Relative Vapor Density:** No data available
- **Density:** 1.665 g/cm^3 at 18°C
- **Auto-Ignition Temperature:** 1000°C / 1010°C
- **Decomposition Temperature:** 175°C
- **Volatility:** No data available
- **Bulk Density:** ca.560 kg/m3
- **Viscosity, dynamic:** No data available
- **Viscosity, Kinematic:** No data available
- **Water/Oil Dist. Co eff.:** No data available
- **Partition Co-efficient: n-octanol/Water:** log Pow: -1.64 at 20 °C
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** No data available

- **Upper Explosion Limit:** No data available
- **Boiling Point/Range:** No data available
- **Flash Point:** 345°C
- **Water Solubility:** 383 g/l at 25°C
- **Molecular Weight:** 192.13 g/mol

9.2. Other information:

Molecular Formula: $C_6H_8O_7$

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Risk of dust explosion.

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions:

Violent reactions possible with:

Metals, Oxidizing agents, Bases, Reducing agents

10.4. Conditions to avoid:

Temperatures above melting point.

10.5. Incompatible materials:

Metals

10.6. Hazardous decomposition products:

No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral toxicity

LD50 Rat: 11,700 mg/kg

OECD Test Guideline 401

(anhydrous substance)

Symptoms: In high doses:, Irritation of mucous membranes, Pain, Bloody vomiting

Acute inhalation toxicity

Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402

(anhydrous substance)

Skin irritation

Rabbit

Result: No irritation

OECD Test Guideline 404

Eye irritation

Rabbit

Result: Severe irritations

OECD Test Guideline 405

Causes serious eye irritation.

Sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vivo

Chromosome aberration test

Rat

Male

Oral

Bone marrow

Result: negative

Method: OECD Test Guideline 475

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Carcinogenicity

No data available

Reproductive toxicity

No impairment of reproductive performance in animal experiments. (Lit.)

Teratogenicity

Did not show teratogenic effects in animal experiments. (Lit.)

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further Information:

Substance which occurs in the human body under physiological conditions.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish

LC50 Leuciscus idus (Golden orfe): 440 - 760 mg/l; 96 h

(IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC5 E.sulcatum: 485 mg/l; 72 h

(Lit.)

EC50 Daphnia magna (Water flea): ca. 120 mg/l; 72 h

(IUCLID)

Toxicity to algae

IC5 Scenedesmus quadricauda (Green algae): 640 mg/l; 7 d

(maximum permissible toxic concentration) (Lit.)

IC5 M.aeruginosa: 80 mg/l; 8 d

(maximum permissible toxic concentration) (Lit.)

Toxicity to bacteria

EC5 Pseudomonas putida: > 10,000 mg/l; 16 h

(maximum permissible toxic concentration) (Lit.)

12.2 Persistence and degradability:

Biodegradability 98 %; 2 d

OECD Test Guideline 302B

Readily eliminated from water

Biochemical Oxygen Demand (BOD) 526 mg/g (5 d) (IUCLID)

Chemical Oxygen Demand (COD) 728 mg/g (IUCLID)

12.3 Bioaccumulate potential:

Partition coefficient: n - octanol/water

log Pow: -1.64 (20 °C)

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects:

Additional ecological information

Harmful effect due to pH shift. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	Not classified as dangerous in the meaning of transport regulations.		
14.2 Proper shipping name	Not classified as dangerous in the meaning of transport regulations.		
14.3 Class	Not classified as dangerous in the meaning of transport regulations.		
14.4 Packing group	Not classified as dangerous in the meaning of transport regulations.		
14.5 Environmentally hazardous	Not classified as dangerous in the meaning of transport regulations.		
14.6 Special precautions for user	Not classified as dangerous in the meaning of transport regulations.		

SECTION 15: Regulatory information

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

National legislation

Storage class 10 - 13

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Product Name	Citric Acid anhydrous

Full text of H-Statements referred to under sections 2 and 3.

H319 Causes serious eye irritation.

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Pictogram

Signal word: **Warning**

Hazard statement(s)

H319 Causes serious eye irritation.

Precautionary statement(s)

Response

P264 Wash skin thoroughly after handling

P280 Wear eye/face protection

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

P337 + P313 If eye irritation persists, get medical advice/attention.

Remove contact lenses, if present and easy to do. Continue rinsing.

References: Not available

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