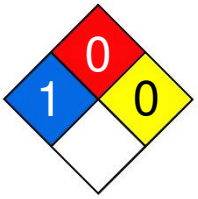
Material Safety Data Sheets



Revision 2

1. IDENTIFICATION

Product Name	**Citric Acid Anhydrous**
Other Names	1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-; 2-Hydroxy-1,2,3-Propanetricarboxylic Acid; 2-Hydroxypropane-1,2,3-Tricarboxylic Acid; Citric Acid
Code No	200-CAA-2
Uses	Food applications.
Chemical Family	No Data Available
Chemical Formula	$C_6H_8O_7$
Chemical Name	Citric Acid Anhydrous
Product Description	Organic acid
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Categories	Irritant
Risk Phrases	Irritating to eyes.
Safety Phrases	Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.
Symbol	

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Citric Acid	$C_6H_8O_7$	77-92-9	100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical advice.
Eye	Immediately wash in and around the eye area with large amounts of luke-warm water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre. Continue to wash with large amounts of water until medical help is available.
Skin	If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.
Inhaled	Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.
Flammability Conditions	No Data Available
Extinguishing Media	In case of fire, appropriate extinguishing media include water fog, carbon dioxide, foam, or dry chemicals.
Fire and Explosion Hazard	Non-combustible solid. Material does not burn nor will it support combustion.
Hazardous Products of Combustion	Hazardous decomposition products may include noxious and toxic fumes of carbon monoxide and carbon dioxide.
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Avoid accidents, clean up immediately. May be slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste.
Containment	Stop leak if safe to do so. Isolate the danger area.
Decontamination	Neutralize the acidity, of the remaining solid, using a dilute solution of soda ash, lime, other agent appropriate for neutralizing acidic solids. Flush the spill area with water: collect the rinsates for disposal or sewer, as appropriate.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust/fumes.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	**No exposure standard has been established for this product by The Safe Work Australia (SWA). However, the exposure standard for dust not otherwise specified is 10mg/m3 (for inspirable dust) and 3mg/m3 (for respirable dust). NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.**
Exposure Limits	**No Data Available**
Biological Limits	**No information available on biological limit values for this product.**
Engineering Measures	**A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.**
Personal Protection Equipment	**RESPIRATOR: Dust mask (AS1715/1716). EYES: Safety glasses with side shields (AS1336/1337). HANDS: Wear impervious rubber gloves (AS2161). CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).**
Work Hygienic Practices	**Wash hands after contact with this material. Do not eat, drink, or smoke around this product.**

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	**Solid**
Appearance	**Free Flowing Crystalline Powder**
Odour	**Odourless**
Colour	**Colourless to white**
pH	**1.5 - 2.5 in solution at 5%**
Vapour Pressure	**No Data Available**
Relative Vapour Density	**No Data Available**
Boiling Point	**No Data Available**
Melting Point	**No Data Available**
Freezing Point	**No Data Available**
Solubility	**134 g/100 g water (appreciable)**
Specific Gravity	**1.665**
Flash Point	**No Data Available**
Auto Ignition Temp	**No Data Available**
Evaporation Rate	**No Data Available**
Bulk Density	**No Data Available**
Corrosion Rate	**No Data Available**
Decomposition Temperature	**No Data Available**
Density	**No Data Available**
Specific Heat	**No Data Available**
Molecular Weight	**No Data Available**
Net Propellant Weight	**No Data Available**
Octanol Water Coefficient	**No Data Available**
Particle Size	**No Data Available**
Partition Coefficient	**No Data Available**
Saturated Vapour Concentration	**No Data Available**
Vapour Temperature	**No Data Available**
Viscosity	**No Data Available**
Volatile Percent	**No Data Available**
VOC Volume	**No Data Available**

Additional Characteristics	**No Data Available**
Potential for Dust Explosion	**May form flammable dust clouds in air.**
Fast or Intensely Burning Characteristics	**No Data Available**
Flame Propagation or Burning Rate of Solid Materials	**No Data Available**
Non-Flammables That Could Contribute Unusual Hazards to a Fire	**No Data Available**
Properties That May Initiate or Contribute to Fire Intensity	**No Data Available**
Reactions That Release Gases or Vapours	**No Data Available**
Release of Invisible Flammable Vapours and Gases	**No Data Available**

10. STABILITY AND REACTIVITY

Chemical Stability	**Product is stable under normal conditions of use, storage and temperature.**
Conditions to Avoid	**High temperature, sparks, and open flames.**
Materials to Avoid	**Caustic (Alkalis). Solutions are mildly corrosive to Carbon Steel.**
Hazardous Decomposition Products	**Hazardous decomposition products may include noxious and toxic fumes of carbon monoxide and carbon dioxide.**
Hazardous Polymerisation	**Hazardous polymerization will not occur.**

11. TOXICOLOGICAL INFORMATION

General Information	**Oral LD50 (rat): 3000 mg/kg.** **Oral LD50 (mice): 5040 mg/kg SKIN: Mild irritant (rabbit).** **EYES: Severe irritant (rabbit).** **Acute toxicity** **LD50 Oral - Rat - 5,400 mg/kg** **(OECD Test Guideline 401)** **LD50 Dermal - Rat - > 2,000 mg/kg** **(OECD Test Guideline 402)** **Skin corrosion/irritation** **Skin - Rabbit** **Result: Mild skin irritation** **(OECD Test Guideline 404)** **Serious eye damage/eye irritation** **Eyes - Rabbit** **Result: Irritating to eyes.** **(OECD Test Guideline 405)** **Respiratory or skin sensitisation** **Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.**
EyeIrritant	**A severe eye irritant. Contamination of eyes can result in permanent injury.**
Ingestion	**No adverse effects expected, however, large amounts may cause nausea and vomiting. Swallowing may result in irritation to the mouth and throat. Frequent or large oral doses can cause tooth erosion. This product is a permitted food additive. Ingestion of a large amount may cause digestive tract irritation.**
Inhalation	**Breathing in dust may result in respiratory irritation with sore throat, coughing and shortness of breath.**
SkinIrritant	**Contact with skin may result in irritation.**
Carcinogen Category	**No Data Available**

12. ECOLOGICAL INFORMATION

Ecotoxicity	**Toxicity Effects: Highly Toxic for fish, not considered to be toxic for bacteria.** **Air Pollution: 50mg/m3 for a mass emission >0.5Kg/h** **Toxicity to fish mortality LC50 - Leuciscus idus melanotus - 440 mg/l - 48 h (OECD Test Guideline 203)** **Toxicity to daphnia and other aquatic invertebrates: static test - Daphnia magna (Water flea) - 1,535 mg/l - 24 h**
Persistence/Degradability	**Easily Biodegradable.**
Mobility	**No information available on mobility for this product.**
Environmental Fate	**Do NOT let product reach waterways, drains and sewers.**
Bioaccumulation Potential	**No information available on bioaccumulation for this product.**
Environmental Impact	**No Data Available**

13. DISPOSAL CONSIDERATIONS

General Information	**Dispose of in accordance with all local regulations. All empty packaging should be disposed of in accordance with Local Regulations or recycled/reconditioned at an approved facility.**
Special Precautions for Land Fill	**Contact a specialist disposal company or the local waste regulator for advice.**

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	**CITRIC ACID ANHYDROUS**
Class	**No Data Available**
Subsidiary Risk(s)	**No Data Available**
	No Data Available
UN Number	**No Data Available**
Hazchem	**No Data Available**
Pack Group	**No Data Available**
Special Provision	**No Data Available**

Sea Transport
IMDG

Proper Shipping Name	**CITRIC ACID ANHYDROUS**
Class	**No Data Available**
Subsidiary Risk(s)	**No Data Available**
UN Number	**No Data Available**
Hazchem	**No Data Available**
Pack Group	**No Data Available**
Special Provision	**No Data Available**
EMS	**No Data Available**
Marine Pollutant	**No**

Air Transport
IATA

Proper Shipping Name	**CITRIC ACID ANHYDROUS**
Class	**No Data Available**
Subsidiary Risk(s)	**No Data Available**
UN Number	**No Data Available**
Hazchem	**No Data Available**
Pack Group	**No Data Available**
Special Provision	**No Data Available**

15. OTHER INFORMATION

Revision	**2**
Key/Legend	**< Less Than** **> Greater Than** **atm Atmosphere** **CAS Chemical Abstracts Service (Registry Number)** **cm Square Centimetres** **CO2 Carbon Dioxide** **COD Chemical Oxygen Demand** **Degrees Celsius** **Degrees Fahrenheit** **g Grams** **g/cm Grams per Cubic Centimetre** **g/l Grams per Litre** **HSNO Hazardous Substance and New Organism** **IDLH Immediately Dangerous to Life and Health** **immiscible Liquids are insoluable in each other.** **inHg Inch of Mercury** **inH2O Inch of Water** **K Kelvin** **kg Kilogram** **kg/m Kilograms per Cubic Metre** **lb Pound** **LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.** **LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.** **ltr or L Litre** **m Cubic Metre** **mbar Millibar** **mg Milligram** **mg/24H Milligrams per 24 Hours** **mg/kg Milligrams per Kilogram** **mg/m Milligrams per Cubic Metre** **Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.** **mm Millimetre** **mmH2O Millimetres of Water** **mPa.s Millipascals per Second** **N/A Not Applicable** **NIOSH National Institute for Occupational Safety and Health** **NOHSC National Occupational Heath and Safety Commission** **OECD Organisation for Economic Co-operation and Development** **Oz Ounce** **PEL Permissible Exposure Limit** **Pa Pascal** **ppb Parts per Billion** **ppm Parts per Million** **ppm/2h Parts per Million per 2 Hours** **ppm/6h Parts per Million per 6 Hours** **psi Pounds per Square Inch** **R Rankine** **RCP Reciprocal Calculation Procedure** **STEL Short Term Exposure Limit** **TLV Threshold Limit Value** **tne Tonne** **TWA Time Weighted Average** **ug/24H Micrograms per 24 Hours** **UN United Nations** **wt Weight**