

SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name: Citric Acid
Recommended Use: Drilling Fluid Additive
Supplier: Bri-Chem Supply Ltd.
27075 Acheson Road
Acheson, AB T7X 6B1
Phone Number: 780-962-9490
Emergency Telephone: 1-800-535-5053 (Infotrac)

Section 2: HAZARD(S) IDENTIFICATION

Classification: This product is considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Eye Damage/Irritation: Category 2A

Label Elements

GHS Pictograms:



Signal Word: Warning

Hazard Statements: Causes serious eye irritation

Precautionary Statements

Prevention: Wash 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.

Hazards Not Other Classified: None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance

Chemical Name: Citric Acid

Formula: C₆H₈O₇

Molecular Weight: 192.12 g/mol

CAS No: 77-92-9

Concentration: 95-100%

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Section 4: FIRST-AID MEASURES

First-Aid Measures

- Eye Contact:** Immediately rinse with plenty of water. Remove contact lenses, if present and easy to do so. Keep eye wide open while rinsing. Continue rinsing for 15 minutes. Call a doctor/ physician if irritation persists.
- Skin Contact:** Wash off immediately with plenty of water. Remove all contaminated clothes and shoes. If skin irritation persists, call a doctor/physician.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Rinse mouth with water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Most Important Symptoms/Effects, Acute and Delayed

- Symptoms:** No information available

Section 5: FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media:** Dry chemical, foam, water spray, carbon dioxide.
- Specific Hazards Arising from the Chemical**
- Hazardous Combustion Products:** Thermal decomposition can lead to the release of irritation or toxic gases and vapors; including and not limited to: Carbon Oxides.
- Protective equipment and Precautions for Fire-Fighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

- Personal Precautions:** Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use personal protection recommended in Section 8. Ensure adequate ventilation.

Methods and Materials for Containment and Cleaning Up

- Methods for Cleaning Up:** Sweep or vacuum up and place in an appropriate closed container. Keep unauthorized personnel away. Avoid generating dust.
- Environmental Precautions:** Prevent entry into waterways or sewer.

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Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:

Do not breathe dust. Avoid contact with eyes, skin and clothing. Wear eye/face protection. Do not use in areas without adequate ventilation. Use personal protective equipment recommended in section 8. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Clean equipment and work area regularly.

Conditions for Safe Storage, Including any Incompatibilities:

Store in a cool/low-temperature, well-ventilated, dry place. Keep containers closed and labeled when not in use.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

This product does not contain any hazardous materials with occupational exposure limits established by the regional specific regulatory bodies.

Appropriate Engineering Controls:

Ensure adequate ventilation, especially in confined areas. Consider the potential hazards of this material, applicable exposure limits, job activities and other substances in the workplace when designing controls and selecting personal protective equipment.

Personal Protective Equipment

Eye/Face Protection:

Wear chemical safety goggles

Skin Protection:

Choose the appropriate protective clothing and gloves based on the tasks being performed to avoid exposure to skin. Wear protective gloves.

Respiratory Protection:

Not required under normal circumstances. If exposure limits are exceeded or if irritation or other symptoms are experienced use a NIOSH/MSHA approved respirator.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practices. Do not eat, drink or smoke when using this product.

Exposure Controls

Engineering Measures:

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

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Personal Protective Equipment

- Respiratory Protection:** Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.
- Hand Protection:** The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye Protection:** Eye wash bottle with pure water. Safety glasses.
- Skin and Body Protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. Wear as appropriate: Protective suit. Safety shoes.
- Hygiene Measures:** When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:** Colorless to White Crystalline
- Physical State:** Solid
- Odor:** None
- Odor Threshold:** No information available
- pH:** 2.1 (0.1 M concentration)
- Melting Point/Freezing Point:** 153°C
- Boiling Point/Boiling Range:** Not applicable
- Flash Point:** Not applicable
- Evaporation Rate:** Not applicable
- Flammability:** No information available

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Flammability of Explosive Limits

Upper:	No information available
Lower:	No information available
Vapor Pressure:	No information available
Vapor Density:	No information available
Specific Gravity:	1.665
Solubility in Water:	Soluble
Partition Coefficient:	No information available
Auto-Ignition Temperature:	No information available
Decomposition Temperature:	No information available
Viscosity:	No information available

Section 10: STABILITY AND REACTIVITY

Reactivity:	None known under normal conditions.
Chemical Stability:	Stable under ordinary conditions of use and storage.
Possibility of Hazardous Reactions:	None under normal processing.
Conditions to Avoid:	Avoid dust formation. Avoid exposure to moisture.
Incompatible Materials:	Strong oxidizers. Strong Bases. Nitrates, Metals.
Hazardous Decomposition Products:	Hazardous combustion can lead to the release of irritating gases and vapors.

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Skin Contact:	May cause skin irritation
Eye Contact:	Causes serious eye irritation
Inhalation:	May cause irritation of respiratory tract
Ingestion:	May be harmful if swallowed

Symptoms Related to the Physical Chemical and Toxicological Characteristics:	No information available
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Delayed and Immediate Effects and also Chronic Effects Form Short and Long-term Exposure

Skin Damage/Irritation:	Not classified
Eye Damage/Irritation:	Causes serious eye irritation
Sensitization:	Not classified

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Mutagenic Effects: Not classified
Carcinogenicity: Not classified
Reproductive Toxicity: Not classified
STOT – Single Exposure: Not classified
STOT – Repeated Exposure: Not classified
Aspiration Hazard: Not classified

Acute Toxicity**Component Information**

Component	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric Acid	77-92-9	5,400 mg/kg	2,000 mg/kg	-

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Should not be released to environment

Component	Freshwater Fish	Freshwater Algae	Water Flea
Citric Acid	LC50: 440 mg/L 96h	640 mg/L 7 d	EC50: 120 mg/L 72 h
77-92-9	(<i>Leuciscus idus</i>)	(<i>Green algae</i>)	(<i>Daphnia magna</i>)

Persistence and Degradability: No information available

Bioaccumulative Potential: No information available

Mobility in Soil: No information available

Other Adverse Effects: No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Processing, use or contamination of this product may occur during product use. Accordingly, it is the responsibility of the user to determine the proper disposal methodologies. Consult the appropriate state, regional or local regulations to ensure complete and accurate classification. Dispose of contaminated packaging in accordance with local regulations.

Section 14: TRANSPORT INFORMATION

DOT: Not regulated
IATA: Not regulated
IMDG: Not regulated

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Section 15: REGULATORY INFORMATION

International Inventories

TSCA: Listed

DSL: Listed

US Federal Regulations

TSCA Section 12(b) Export Notification: Not regulated

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA): Not applicable

SARA 311/312 Hazard Categorization

Acute Health Hazard: Yes

Chronic Health Hazard: No

Fire Hazard: On the inventory, or in compliance with the inventory.

Pressure: No

Reactivity: No

CERCLA/SARA 302 & 304

Section 302 & 304 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA): Not applicable

CWA (Clean Water Act): Not applicable

US State Regulations

California Proposition 65: This product does not contain any proposition 65 chemicals.

Section 16: OTHER INFORMATION

NFPA Ratings

Health: 2

Flammability: 0

Reactivity: 0

Disclaimer:

The information contained herein is based on data available to us and is believed to be true and accurate. However, no guarantee or warranty is provided, expressed or implied, by the company or its subsidiaries regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Since the use of this product is within the exclusive control of the user, we do not assume any responsibility and expressly disclaim any liability for any use of this product. It is the user's responsibility to determine the conditions of safe use, storage, and disposal of the product. Compliance with all applicable federal, provincial, and local regulations remains the responsibility of the user.

Prepared by: Bri-Chem Supply Ltd.

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