DI-CORP
DOWN TO EARTH BUSINESS

SAFETY DATA SHEET
CITRIC ACID

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	**CITRIC ACID**
OTHER MEANS OF IDENTIFICATION:	None
RECOMMENDED USE:	Drilling fluid and cement additive
RESTRICTIONS ON USE:	None known
SUPPLIER IDENTIFIER:	**Di-Corp** **8750-53 Ave** **Edmonton, AB T6E 5G2** **780-440-4923**
EMERGENCY PHONE NUMBER:	780-468-4064 (24 hr)

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Serious eye damage / eye irritation – Category 2
LABEL SYMBOLS:	
SIGNAL WORD:	WARNING
CLASSIFICATION INFORMATION:	Causes serious eye irritation.
PRECAUTIONARY STATEMENTS:	Wash face, hands and any exposed skin thoroughly after handling. Wear eye protection/ face protection. 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 attention.
OTHER HAZARDS:	None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Citric acid	77-92-9	100

SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Wash thoroughly with water and soap. If irritation occurs and persists, obtain medical attention. Remove and launder contaminated clothing before rewearing.
EYE CONTACT:	Immediately flush with gently flowing warm water for minimum 15 minutes. Hold eyelids open to ensure thorough flushing. Neutral saline may be used as soon as it is available. Obtain medical attention when flushing is complete and no further irritation is felt.
INGESTION:	Do not induce vomiting. Rinse mouth with water. Give one to two glasses of water dilute. Obtain medical attention immediately. Never give anything by mouth if victim is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to area free from dust. If victim is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If breathing difficulties or distress continues obtain medical attention.
MOST IMPORTANT SYMPTOMS / EFFECTS:	Causes serious eye damage / eye irritation.
IMMEDIATE MEDICAL ATTENTION / SPECIAL TREATMENT:	Treat symptomatically.

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SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.
UNSUITABLE EXTINGUISHING MEDIA:	None known.
SPECIFIC FIRE HAZARDS:	Anhydrous citric acid is a potential combustible dust hazard. The dry powder can form explosive dust-air mixture, which can be ignited by a spark or flame. The solid material may burn if strongly heated. Autoignition temperature = 1010°C.
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus required for fire-fighting personnel.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIMENT AND EMERGENCY PROCEDURES

Wear appropriate safety gear including eye and respiratory protection.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Collect dry material by sweeping and shoveling; liquid material can be removed with a vacuum truck. Collect uncontaminated material for repackaging. Collect contaminated material in an approved container for disposal. Flush spill area thoroughly with water.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid contact with eyes or prolonged skin contact. Avoid breathing dust. Use good personal hygiene and housekeeping. Launder contaminated clothing before reuse.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in cool, dry area away from incompatibles. Keep container tightly closed and properly labelled. Aqueous solutions of citric acid can, if in contact with reactive metal (iron, zinc, aluminum) form hydrogen which may create explosive mixtures. Avoid creating dust clouds when handling. Empty packages contain residual hazardous material and should be handled as if full.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	Not established. Local nuisance dust levels apply.
ENGINEERING CONTROLS:	Use only with adequate ventilation. If user operations generate dust use process enclosure, local exhaust ventilation or other engineering controls to keep worker exposure below limits.
	PERSONAL PROTECTIVE MEASURES
RESPIRATORY PROTECTION:	Approved dust masks required for dust levels below TLV. Use a properly fitted particulate filter respirator complying with an approved standard if airborne concentrations exceeds TLV or if a risk assessment indicates this is necessary.
PROTECTIVE GLOVES:	Rubber gauntlets recommended.
EYE PROTECTION:	Wear tight fitting chemical goggles. Do not wear contact lenses.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Protective clothing as required to prevent contact. Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White powder or granules
ODOUR:	Odourless
ODOUR THRESHOLD:	Not applicable
pH:	2.2 (1% aqueous solution)
MELTING POINT / FREEZING POINT:	153°C
BOILING POINT / RANGE:	Not applicable (decomposes)

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FLASH POINT:	Not applicable
EVAPORATION RATE:	Not applicable
FLAMMABILITY:	Combustible
FLAMMABILITY / EXPLOSIVE LIMITS:	Not applicable
VAPOUR PRESSURE:	Not applicable
VAPOUR DENSITY:	Not applicable
RELATIVE DENSITY:	1.665
SOLUBILITY:	Soluble in water
PARTION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	1010°C
DECOMPOSITION TEMPERATURE:	Not applicable
VISCOSITY:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	May react violently with strong oxidizers if heated. May react violently with strong reducing agents. May generate heat and pressure in contact with strong bases. Corrosive to carbon steel and aluminum.
CHEMICAL STABILITY:	Stable.
POSSIBILITY OF HAZARDOUS REACTIONS:	Not available
CONDITIONS TO AVOID:	Avoid contact with strong oxidizers, strong reducing agents, strong bases and metals.
INCOMPATIBLE MATERIALS:	Strong oxidizers, strong reducing agents and strong bases.
HAZARDOUS DECOMPOSITION PRODUCTS:	May react with metals generating explosive hydrogen gas.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY:	LD50 (Oral, rat) = 3000 mg/kg
SKIN CONTACT:	May cause mild to moderate irritation.
EYE CONTACT:	May cause moderate to severe irritation according to animal testing.
INGESTION:	Ingestion of large amounts may cause stomach pain and vomiting.
INHALATION:	Dusts and mists from solutions may cause temporary irritation of the nose and throat. The severity of these effects would depend on the airborne concentration, concentration of the solution and the duration of exposure.
CARCINOGENICITY:	Not listed by NTP, IARC, OSHA or ACGIH.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.
TARGET ORGAN EFFECTS:	Not available.

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SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	No information available.
PERSISTENCE AND DEGRADABILITY:	Not available.
BIOACCUMULATIVE POTENTIAL:	Not available.
MOBILITY IN SOIL:	Not available.
OTHER ADVERSE EFFECTS:	No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be recycled, or disposed of, in accordance with local regulations.

SECTION 14: TRANSPORTATION INFORMATION

TDG	Not regulated
DOT	Not regulated
IATA	Not regulated
IMDG	Not regulated
UN NUMBER:	Not applicable
PROPER SHIPPING NAME:	Not applicable
CLASS:	Not applicable
PACKING GROUP:	Not applicable
IMDG HAZARDS:	Not a marine pollutant
BULK TRANSPORT:	Not regulated
SPECIAL PRECAUTIONS:	None

SECTION 15: REGULATORY INFORMATION

DSL:	Listed
WHMIS CLASS:	E
TSCA:	Listed

SECTION 16: OTHER INFORMATION

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