




Section 1: Product & Company Information

Product Name: Chembreak ECA
Chemical Family: Enzymes and acid blend
Product Use: Drilling Mud Additive

Workplace Hazardous Materials Information Systems Data (WHMIS):

	Class ID	Class	Workplace Hazard
	D-2-A	Materials Causing Other Toxic Effects - Very Toxic	Toxic effects
	D-2-B	Materials Causing Other Toxic Effects - Toxic	Skin and eye irritant

Manufacturer Name: HiTech Fluid Systems
Address: #1800, 505 3rd Street SW, Calgary, AB T2P 3E6 Canada
General Phone Number: (403)547-2906
General Fax Number: (403)547-3129
MSDS Revision Date: June 1, 2008
Supercedes: June 23, 2005
Prepared By: HiTech Fluid Systems
Preparer's Phone: (403)547-2906

Section 2: Composition/Information on Ingredients

Chemical Name	Concentration	CAS#
Citric Acid	30-60%	77-92-9
Amylase	1-5%	9000-90-2

Section 3: Hazards Identification

Emergency Overview:

Routes of Entry:

Skin Contact: Yes
Skin Absorption: No
Eye Contact: Yes
Inhalation: Yes
Ingestion: Yes

Potential Health Effects:

Skin:	May cause irritation.
Eye:	May cause irritation.
Inhalation:	Dust may irritate the nose and throat. Inhalation may cause irritation of the mucous membranes.
Ingestion:	May cause gastrointestinal irritation and dental erosion.

Section 4: First Aid Measures

Eye Contact:	Flush eyes with water for at least 15 minutes, seek medical attention.
Skin Contact:	Wash with soap and water. If irritation develops or persists, seek medical attention. Contaminated clothing should be laundered before re-use.
Inhalation:	Remove patient to fresh air. If breathing has stopped, administer artificial respiration, and seek medical attention.
Ingestion:	If conscious, give 2 to 4 glasses of water to drink. DO NOT induce vomiting. Seek medical attention. Do not give anything by mouth to an unconscious or convulsing person.

Other First Aid:

Section 5: Fire Fighting Measures

Conditions Of Flammability:	Not determined.
Extinguishing Media:	Dry chemical, CO ₂ , foam
Flashpoint:	Not determined.
Upper Flammable Limit:	Not determined.
Lower Flammable Limit:	Not determined.
Autoignition Temperature:	Not determined.
Protective Equipment:	Firefighters must wear appropriate breathing apparatus and clothing.
Sensitivity To Impact or Static Discharge:	None known.
Hazardous Combustion Products:	CO _x on combustion
Fire Comment:	

Section 6: Accidental Release Measures

- Personnel Precautions:** Use proper personal protective equipment as listed in section 8.
- Spill Cleanup Measures:** Use appropriate safety equipment. Small spills, sweep up and put into approved DOT containers for disposal or re-use. Large spills, do not allow to enter waterways, sweep or shovel into approved DOT containers for re-use or disposal.

Section 7: Handling & Storage

- Handling:** Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.
- Storage:** Store in a cool, dry, well ventilated place. Keep container tightly closed and away from incompatible materials.

Section 8: Exposure Controls, Personal Protection, Exposure Guidelines

- Engineering Controls:** None known.
- Personal Protective Equipment:** Chemical-resistant clothing is recommended, including gloves, apron, and goggles.
- Respiratory Protection:** In absence of proper ventilation, recommended NIOSH-approved dust respirator.
- Exposure Limits:** Not determined.

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Citric Acid	Not Determined	Not Determined
Amylase	Not Determined	Not Determined

Section 9: Physical & Chemical Properties

- Physical State:** Solid
- Odour And Appearance:** White powder; odourless
- Odour Threshold:** Not determined.
- Boiling Point:** Not Applicable
- Evaporation Rate:** Not determined.
- Melting Point:** Not determined.
- Freezing Point:** Not determined.
- Specific Gravity:** 1.54
- Solubility in Water:** 162g / 100ml

Vapour Density:	Not determined.
Vapour Pressure:	Not determined.
pH:	2.6 @ 10%, 2.4 @ 20% (wt/v)
Flash Point:	Not determined.
Volatility (% by volume):	Not determined.
Coefficient of Water to Oil distribution:	Not determined.

Section 10: Stability & Reactivity

Chemical Stability:	Yes
Hazardous Polymerization:	Will not occur.
Conditions Of Chemical Instability:	
Incompatible Substances:	Alkali metals, organic acids, oxides of sulphur, strong bases.
Special Decomposition Products:	CO _x on combustion

Section 11: Toxicological Information

Chemical Name	LD ₅₀ (Oral Rat)	LD ₅₀ (Dermal Rabbit)	LC ₅₀ (Inhalation Rat)
Citric Acid	3000 mg/kg	Not Determined	Not Determined
Amylase	Not Determined	Not Determined	Not Determined

Effects Of Acute Exposure:	Not determined.
Effects Of Chronic Exposure:	Repeated inhalation of enzyme aerosols may cause respiratory tract sensitization in susceptible individuals. Symptoms include shortness of breath, skin rashes, and irritation to eyes.
General Irritancy Of Product:	Not determined.
Sensitization:	Not determined.
Carcinogenicity:	Not determined.
Reproductive Toxicity:	Not determined.
Teratogenicity:	Not determined.
Embryotoxicity:	Not Available
Mutagenicity:	Not determined.
Synergistic Products:	Not determined.

Section 12: Ecological Information

Ecotoxicity: Not Available

Environmental Fate: Not Available

Section 13: Disposal Considerations

Waste Disposal: All waste should be disposed of according to federal, provincial and local regulations. Containers should NOT be re-used. Containers should be disposed of in accordance with government regulations.

Section 14: Transport Information




TDG Classification: Not regulated.

DOT UN Number: Not regulated.

Shipping Notes: No special requirements

Section 15: Regulatory Information

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This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16: Additional Information

MSDS Revision Date: June 1, 2008

MSDS Revision Notes:

MSDS Author: HiTech Fluid Systems

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