



## 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:**

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

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**Section 4: First Aid Measures**

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<b>Eye Contact:</b>	Flush eyes with water for at least 15 minutes, seek medical attention.
<b>Skin Contact:</b>	Wash with soap and water. If irritation develops or persists, seek medical attention. Contaminated clothing should be laundered before re-use.
<b>Inhalation:</b>	Remove patient to fresh air. If breathing has stopped, administer artificial respiration, and seek medical attention.
<b>Ingestion:</b>	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:**

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**Section 5: Fire Fighting Measures**

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

## Section 6: Accidental Release Measures

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- 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

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- 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

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- 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

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- 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

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

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## Section 10: Stability & Reactivity

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

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## Section 11: Toxicological Information

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

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

## Section 12: Ecological Information

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**Ecotoxicity:** Not Available

**Environmental Fate:** Not Available

## Section 13: Disposal Considerations

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**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

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**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.

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## Section 16: Additional Information

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**MSDS Revision Date:** June 1, 2008

**MSDS Revision Notes:**

**MSDS Author:** HiTech Fluid Systems

**Disclaimer:** This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.