Section 1: Product & Company Information

Product Name: Detergent L

Chemical Family: Anionic Surfactant

Product Use: Drilling Fluid 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#
Ethylene Glycol	10 - 30%	107-21-1
Triethanolamine	1 - 5%	102-71-6
Alkyl Sulphonic Acid	3 - 7%	27176-93-9

Section 3: Hazards Identification

Emergency Overview: None required.

Routes of Entry:

Skin Contact: Yes

Skin Absorption: No

Eye Contact: Yes

Inhalation: Yes

Ingestion: Yes

Potential Health Effects:

Skin: May cause redness, with swelling and pain.

Eye: Liquid, vapour, and mist causes irritation, experienced as stinging, excessive blinking and tear production, with excessive redness of the conjuntiva. Injury to the cornea is not expected.

Inhalation: May cause irritation of the nose and throat, with headache, particularly from mist. High vapour concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may cause nausea, vomiting, headache, dizziness, and irregular eye movements.

Ingestion: May cause abdominal discomfort or pain, nausea, diarrhea, oligurea, uremia, and central nervous system effects, including irregular eye movement, convulsions, and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage follows the swallowing of large volumes of ethylene glycol. May be fatal.

Section 4: First Aid Measures

Eye Contact: Flush with copious amount of water for at least 15 minutes. Seek medical attention.

Skin Contact: Remove contaminated clothing, and launder before re-use. Wash thoroughly with soap and water. If irritation develops, seek medical attention.

Inhalation: Evacuate patient to fresh air. If breathing has stopped, administer artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention. If adverse symptoms develop, seek medical attention.

Ingestion: DO NOT induce vomiting. Administer two glasses of water to drink. Seek immediate medical attention. If medical attention is delayed, and the patient has swallowed a moderate amount, have them drink three to four ounces of hard liquor, such as whiskey.

Other First Aid: None required.

Section 5: Fire Fighting Measures

Conditions Of Flammability:

Extinguishing Media: Dry chemical, CO_2, foam, water

Flashpoint: $>100^{\circ}C$

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: Not known

Hazardous Combustion Products: None known.

Fire Comment:

Section 6: Accidental Release Measures

Personnel Precautions: Use proper personal protective equipment as listed in section 8.

Spill Cleanup Measures: Small spills, soak up with absorbent material. Large spills, dike to contain spill to prevent water pollution. Extremely slippery when wet. Return recovered material to plant.

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: Provide mechanical ventilation to prevent dust concentrations, and to reduce potential exposure.

Personal Protective Equipment: Chemical-resistant clothing is recommended, including gloves, apron, and goggles.

Respiratory Protection: Recommend NIOSH-approved dust respirator.

Exposure Limits: OSHA PEL: CL 50 ppm ACGIH:CL50 ppm (vapour)

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Ethylene Glycol	CL 50 ppm	CL 50 ppm
Triethanolamine	Not Determined	Not Determined
Alkyl Sulphonic Acid	Not Determined	Not Determined

Section 9: Physical & Chemical Properties

Physical State: Liquid

Odour And Appearance: Blue liquid; glycol odour

Odour Threshold: Not determined

Boiling Point: 105°C

Evaporation Rate: Not determined

Melting Point: Not determined

Freezing Point:	Not determined
Specific Gravity:	1.022
Solubility in Water:	Soluble
Vapour Density:	Not determined
Vapour Pressure:	Not determined
pH:	7-8
Flash Point:	>100°C
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:	Oxidizing agents, reducing agents, metals, acids, alkali
Special Decomposition Products:	CO_2, SO_2

Section 11: Toxicological Information

Chemical Name	LD_{50} (Oral Rat)	LD_{50} (Dermal Rabbit)	LC_{50} (Inhalation Rat)
Ethylene Glycol	4700 mg/kg	9530 mg/kg	Not Determined
Triethanolamine	8 g/kg	Not Determined	Not Determined
Alkyl Sulphonic Acid	Not Determined	Not Determined	Not Determined

Effects Of Acute Exposure:	Not determined
Effects Of Chronic Exposure:	Not determined
General Irritancy Of Product:	Medium
Sensitization:	Triethanolamine: Reports of skin sensitisation in workers
Carcinogenicity:	N/A
Reproductive Toxicity:	N/A
Teratogenicity:	Ethylene Glycol: Very toxic
Embryotoxicity:	Not Available
Mutagenicity:	N/A
Synergistic Products:	N/A

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

Workplace Hazardous Materials Information Systems Data (WHMIS):

	Class ID	Class	Workplace Hazard
	D-2-A	Materials Causing Other Toxic Effects - Very Toxic	Toxic effects
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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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