Section 1: Product & Company Information

Product Name: Sulphamic Acid

Chemical Family: Amide of sulphuric acid

Product Use: Drilling Mud Additive

Workplace Hazardous Materials Information Systems Data (WHMIS):

Class ID	Class	Workplace Hazard
E	Corrosive Materials	Corrosive

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#
Sulphamic Acid	99%	5329-14-6

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: Prolonged exposure may cause irritation.

Eye: May cause slight irritation and/or redness. Impaired vision.

Inhalation: CORROSIVE! May cause sore throat, coughing, shortness of breath, lung edema. Symptoms usually develop several hours after exposure and are aggravated by exertion.

Ingestion: CORROSIVE! Will cause diarrhea, abdominal cramps, mouth and tongue pain, sore throat, nausea, and stomach ache.

Section 4: First Aid Measures

Eye Contact: Flush eyes with water for at least 15 minutes. If adverse symptoms develop, 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: May burn with surrounding fire.

Extinguishing Media: Dry chemical, CO_2, foam, water

Flashpoint: N/A

Upper Flammable Limit: N/A

Lower Flammable Limit: N/A

Autoignition Temperature: N/A

Protective Equipment: If water is used, water will become acidic. Self-contained breathing apparatus should be used by firefighters.

Sensitivity To Impact or Static Discharge: None known.

Hazardous Combustion Products: May release sulphur dioxide, sulphur trioxide, and ammonia gas, if involved in a fire.

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: 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: Recommend 8 hour time weighted average of 1 mg/m^3 in air.

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Sulphamic Acid	Not Available	Not Available

Section 9: Physical & Chemical Properties

Physical State: Solid

Odour And Appearance: White crystalline; odourless

Odour Threshold: N/A

Boiling Point: Decomposes at 408°F

Evaporation Rate: N/A

Melting Point: 205°C

Freezing Point: N/A

Specific Gravity: 2.126

Solubility in Water: 17.5 g/100 ml @ 20C

Vapour Density: N/A

Vapour Pressure: N/A

pH: 1.18 in 1% solution

Flash Point: N/A

Volatility (% by volume): N/A

Coefficient of Water to Oil distribution: Not available

Section 10: Stability & Reactivity

Chemical Stability: Yes

Hazardous Polymerization: Will not occur.

Conditions Of Chemical Instability: N/A

Incompatible Substances: Strong oxidizing agents. In aqueous solution is a medium strong acid, which reacts violently with bases and is corrosive, and hydrolizes to ammonium bisulphate when temperature rises. Reacts violently with chlorine and nitric acid. The aqueous solution hydrolizes to ammonium bisulphate when subjected to rises in temperature.

Special Decomposition Products: SO_2, SO_3, NO_x, ammonia gas

Section 11: Toxicological Information

Chemical Name	LD_{50} (Oral Rat)	LD_{50} (Dermal Rabbit)	LC_{50} (Inhalation Rat)
Sulphamic Acid	3160 mg/kg	500 mg/24 hr	Not Available

Effects Of Acute Exposure: Not available

Effects Of Chronic Exposure: Not available

General Irritancy Of Product: Moderate

Sensitization: Not available

Carcinogenicity: Not considered to be a carcinogen by IARC, NTP, and OSHA.

Reproductive Toxicity:

Teratogenicity:

Embryotoxicity: Not Available

Mutagenicity:

Synergistic Products:

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. It is the responsibility of the end-user to determine if material meets criteria for hazardous waste at the time of disposal. Containers should NOT be re-used. Containers should be disposed of in accordance with government regulations. May be neutralized with alkalies.

Section 14: Transport Information

TDG Classification: 8

DOT UN Number: UN 2967

Shipping Notes: As per TDG

Section 15: Regulatory Information

Workplace Hazardous Materials Information Systems Data (WHMIS):

Class ID	Class	Workplace Hazard
E	Corrosive Materials	Corrosive

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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