




Section 1: Product & Company Information

Product Name: Caustic Soda
Chemical Family: Alkali Hydroxide
Product Use: Drilling Mud Additive

Workplace Hazardous Materials Information Systems Data (WHMIS):

	Class ID	Class	Workplace Hazard
	D-1-B	Materials Causing Immediate/Serious Toxic Effects - Toxic	Immediate serious toxic effects
	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#
Sodium Hydroxide	100%	1310-73-2

Section 3: Hazards Identification

Emergency Overview: Not available

Routes of Entry:

Skin Contact: Yes
Skin Absorption: Yes
Eye Contact: Yes
Inhalation: Yes
Ingestion: Yes

Potential Health Effects:

Skin:	Severe burning, frequently deep ulcerations and ultimate scarring. Destructive effect on tissues. Contact with dust or mist can cause multiple burns with temporary loss of hair at burn site. Solutions of up to 4% in water may not cause irritation or burning for several hours, while 25 - 50% solutions can cause these effects in less than three minutes.
Eye:	Extremely corrosive to the eyes. Can penetrate deeply, causing severe burns, corneal scarring, and clouding. In severe cases, glaucoma, cataracts, and permanent blindness may occur.
Inhalation:	Severe irritation of the respiratory tract, inflammation of lungs, difficulty breathing. May cause pulmonary edema.
Ingestion:	Will cause severe burning of mouth, throat, and esophagus; vomiting, diarrhea, and swelling of larynx and subsequent suffocation. Perforation of the gastrointestinal tract can occur.

Section 4: First Aid Measures

Eye Contact:	Immediately flush the contaminated eyes with lukewarm, gently flowing water for a minimum of 20 minutes, but preferably longer, holding the eyelids open. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, repeat flushing. Obtain medical attention immediately.
Skin Contact:	Immediately flush with water for 15 minutes, or until feeling of slipperiness disappears. Seek medical attention.
Inhalation:	Remove patient to fresh air. If breathing has stopped, administer artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention.
Ingestion:	DO NOT induce vomiting. Give one cup of water to drink, in order to dilute material in stomach. If vomiting occurs naturally, repeat administration of water. Seek immediate medical attention.
Other First Aid:	Not available

Section 5: Fire Fighting Measures

Conditions Of Flammability:	None known.
Extinguishing Media:	Dry chemical, CO ₂ , foam, water
Flashpoint:	Not available
Upper Flammable Limit:	Not available
Lower Flammable Limit:	Not available
Autoignition Temperature:	Not available
Protective Equipment:	Firefighters must wear appropriate breathing apparatus and clothing.

Sensitivity To Impact or Static Discharge: Not available

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: Restrict access to area. Wear appropriate protective gear. Contain spill. Do not allow to enter waterways. Neutralize the final traces and flush area with water. Spilled solutions should be contained by diking with inert material, such as sand or earth.

Section 7: Handling & Storage

Handling: Avoid all contact with product. When diluting solution or dissolving, add caustic to water in small amounts, avoiding boiling and splattering.

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: Impervious clothing is necessary, including gloves and boots. Goggles and faceshield required.

Respiratory Protection: In absence of proper ventilation, recommended NIOSH-approved dust respirator.

Exposure Limits: ACGIH TLV = 2mg/m³

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Sodium Hydroxide	2 mg/m ³	2 mg/m ³

Section 9: Physical & Chemical Properties

Physical State:	Solid
Odour And Appearance:	White bead or flake; odourless
Odour Threshold:	Not available
Boiling Point:	1390°C
Evaporation Rate:	Not available
Melting Point:	318°C
Freezing Point:	Not available
Specific Gravity:	2.13 g/cc
Solubility in Water:	Complete
Vapour Density:	Not available
Vapour Pressure:	80 mbarr @ 1057°C
pH:	13, strong alkali
Flash Point:	Not available
Volatility (% by volume):	Not available
Coefficient of Water to Oil distribution:	Not available

Section 10: Stability & Reactivity

Chemical Stability:	Yes
Hazardous Polymerization:	Will not occur.
Conditions Of Chemical Instability:	
Incompatible Substances:	Strong Acids: May react violently. Water: Reaction may generate enough heat to ignite combustible materials. Metals: (Aluminum and Zinc) Reaction may produce flammable and explosive hydrogen gas. Organohalogen Compounds: May react to form spontaneously combustible compounds. Nitro and Chloro Organic Compounds: may react explosively. Reducing Sugars and Dry Whey Solids: Fructose, galactose, arabinose, levulose, lactose, maltose, as well as dry whey solids may react with alkaline solutions to form possibly lethal concentrations of Carbon Monoxide.
Special Decomposition Products:	Carbon monoxide

Section 11: Toxicological Information

Chemical Name	LD ₅₀ (Oral Rat)	LD ₅₀ (Dermal Rabbit)	LC ₅₀ (Inhalation Rat)
Sodium Hydroxide	Not Available	500 mg/kg	Not Available

Effects Of Acute Exposure: Will burn contact area.

Effects Of Chronic Exposure: None known.

General Irritancy Of Product: Not available

Sensitization: Not available

Carcinogenicity: Not available

Reproductive Toxicity: Not available

Teratogenicity: Not available

Embryotoxicity: Not Available

Mutagenicity: Not available

Synergistic Products: Not available

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: 8 / Packaging Group II



DOT UN Number: UN 1823

Shipping Notes: Secure containers (full and/or empty) with suitable hold-down devices during shipment.

Ship as per transportation of dangerous goods regulations.

Section 15: Regulatory Information

Workplace Hazardous Materials Information Systems Data (WHMIS):

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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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