




## 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:**

|                    |   |
|--------------------|---|
| <b>Skin:</b>       | 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. |
| <b>Eye:</b>        | 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.   |
| <b>Inhalation:</b> | Severe irritation of the respiratory tract, inflammation of lungs, difficulty breathing. May cause pulmonary edema.   |
| <b>Ingestion:</b>  | 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**

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|                         |   |
|-------------------------|---|
| <b>Eye Contact:</b>     | 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. |
| <b>Skin Contact:</b>    | Immediately flush with water for 15 minutes, or until feeling of slipperiness disappears. Seek medical attention.   |
| <b>Inhalation:</b>      | Remove patient to fresh air. If breathing has stopped, administer artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention.   |
| <b>Ingestion:</b>       | 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.   |
| <b>Other First Aid:</b> | Not available   |

**Section 5: Fire Fighting Measures**

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|                                    |  |
|------------------------------------|--|
| <b>Conditions Of Flammability:</b> | None known.  |
| <b>Extinguishing Media:</b>        | Dry chemical, CO <sub>2</sub> , foam, water                          |
| <b>Flashpoint:</b>                 | Not available  |
| <b>Upper Flammable Limit:</b>      | Not available  |
| <b>Lower Flammable Limit:</b>      | Not available  |
| <b>Autoignition Temperature:</b>   | Not available  |
| <b>Protective Equipment:</b>       | 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

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**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

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**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

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**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/m<sup>3</sup>

| Chemical Name    | ACGIH TLV-TWA       | OSHA PEL-TWA        |
|------------------|---------------------|---------------------|
| Sodium Hydroxide | 2 mg/m <sup>3</sup> | 2 mg/m <sup>3</sup> |

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## Section 9: Physical & Chemical Properties

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

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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>            | 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. |
| <b>Special Decomposition Products:</b>     | Carbon monoxide   |

## Section 11: Toxicological Information

| Chemical Name    | LD <sub>50</sub> (Oral Rat) | LD <sub>50</sub> (Dermal Rabbit) | LC <sub>50</sub> (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

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|  | 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

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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.