

MATERIAL SAFETY DATA SHEET**Product Trade Name:** CAUSTIC SODA**Revision Date:** 16-Feb-2004**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Product Trade Name:** CAUSTIC SODA**Synonyms:** None**Chemical Family:** Hydroxide**Application:** pH Control**Manufacturer/Supplier:** Baroid Drilling Fluids
a Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
Emergency Telephone: (281) 575-5000**Prepared By:** Chemical Compliance
Telephone: 1-580-251-4335**2. COMPOSITION/INFORMATION ON INGREDIENTS**

SUBSTANCE	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Sodium hydroxide	1310-73-2	60 - 100%	2 mg/m ³	2 mg/m ³

3. HAZARDS IDENTIFICATION**Hazard Overview:** May cause eye, skin, and respiratory burns. May be harmful if swallowed.**4. FIRST AID MEASURES****Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.**Skin:** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse. Destroy or properly dispose of contaminated shoes.**Eyes:** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.**Ingestion:** Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.**Notes to Physician:** Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

Fire Extinguishing Media	All standard firefighting media.
Special Exposure Hazards	May form explosive mixtures with strong acids. Reaction with steel and certain other metals generates flammable hydrogen gas.
Special Protective Equipment for Fire-Fighters	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.
NFPA Ratings:	Health 3, Flammability 0, Reactivity 1
HMIS Ratings:	Flammability 0, Reactivity 1, Health 3

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures	Use appropriate protective equipment. Avoid creating and breathing dust.
Environmental Precautionary Measures	Prevent from entering sewers, waterways, or low areas.
Procedure for Cleaning / Absorption	Neutralize to pH of 6-8. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions	Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.
Storage Information	Store away from acids. Store in a cool, dry location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Use in a well ventilated area. Localized ventilation should be used to control dust levels.
Respiratory Protection	HEPA Respirator.
Hand Protection	Impervious rubber gloves.
Skin Protection	Full protective chemical resistant clothing. Rubber boots.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	White to off white
Odor:	Odorless
pH:	14
Specific Gravity @ 20 C (Water=1):	2.13
Density @ 20 C (lbs./gallon):	Not Determined

9. PHYSICAL AND CHEMICAL PROPERTIES

Bulk Density @ 20 C (lbs/ft3):	71.5
Boiling Point/Range (F):	2535
Boiling Point/Range (C):	1390
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Soluble
Solubility in Solvents (g/100ml):	Soluble in alcohols
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistrokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	40

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Contact with acids. Peroxides. Halogenated compounds. Prolonged contact with aluminum, lead, or zinc may liberate flammable hydrogen.
Hazardous Decomposition Products	None known.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	Causes severe respiratory burns. May cause chemical pneumonia.
Skin Contact	Causes severe burns.
Eye Contact	May cause eye burns.
Ingestion	Causes burns of the mouth, throat and stomach.
Aggravated Medical Conditions	Skin disorders.
Chronic Effects/Carcinogenicity	Prolonged, excessive exposure may cause erosion of the teeth.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	LD50: 140-340 mg/kg (Rat)
Dermal Toxicity:	LD50: 1350 mg/kg (Rabbit)
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined

Genotoxicity: Not determined

**Reproductive /
Developmental Toxicity:** Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air) Not determined

Persistence/Degradability Not applicable

Bio-accumulation Not Determined

Ecotoxicological Information

Acute Fish Toxicity: TLM96: 730 ppm (Oncorhynchus mykiss)

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Chemical Fate Information Not determined

Other Information Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT

Sodium Hydroxide, Solid, 8, UN1823, II
NAERG 154

Canadian TDG

Sodium Hydroxide, Solid, 8, UN1823, II

ADR

UN1823, Sodium Hydroxide, Solid, 8, II

Air Transportation

ICAO/IATA

UN1823, Sodium Hydroxide, Solid, 8, II

Sea Transportation

IMDG

UN1823, Sodium Hydroxide, Solid, 8, II
EmS F-A, S-B

Other Shipping Information

Labels: Corrosive

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard
EPA SARA (313) Chemicals	This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Sodium Hydroxide//1310-73-2
EPA CERCLA/Superfund Reportable Spill Quantity For This Product	EPA Reportable Spill Quantity is 1000 Pounds based on Sodium hydroxide (CAS: 1310-73-2).
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.
Canadian Regulations	
Canadian DSL Inventory	All components listed on inventory.
WHMIS Hazard Class	E Corrosive Material

16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS

Not applicable

Additional Information For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

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*****END OF MSDS*****