DI-CORP
DOWN TO EARTH BUSINESS

SAFETY DATA SHEET
CAUSTIC SODA

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	**CAUSTIC SODA**
OTHER MEANS OF IDENTIFICATION:	Sodium hydroxide
RECOMMENDED USE:	Oilwell drilling fluid additive
RESTRICTIONS ON USE:	None known
SUPPLIER IDENTIFIER:	**Di-Corp** **8750-53 Ave** **Edmonton, AB T6E 5G2** **780-440-4923**
EMERGENCY PHONE NUMBER 24hr:	**1-888-CANUTEC (226-8832), 613-996-6666 or *666 on a cellular phone**

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Corrosive to metals – Category 1 Skin corrosion – Category 1A Serious eye damage – Category 1 Acute aquatic toxicity – Category 3
LABEL SYMBOLS:	
SIGNAL WORD:	DANGER
CLASSIFICATION INFORMATION:	May be corrosive to metals. Causes severe skin burns and eye damage. Harmful to aquatic life.
OTHER HAZARDS:	None known.
PRECAUTIONARY STATEMENTS:	Keep only in original packaging. Do not breathe dust. Wash hands, face and exposed skin thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection IF SWALLOWED: Do not induce vomiting. Rinse mouth. Immediately call a POISON CENTER or physician. IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Store locked up in corrosion resistant container. Dispose of contents/container in accordance with local, regional, national, and/or international regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Sodium hydroxide	1310-73-2	95-99% (w/w)

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SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Quickly and gently brush away excess chemical. Flush with running water while removing contaminated clothing. Continue flushing for 30 minutes. Obtain medical attention.
EYE CONTACT:	Quickly and gently blot or brush chemical off the face. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens until flushing is done. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto the face. Quickly transport victim to an emergency care facility.
INGESTION:	Have victim rinse mouth with water. Do not induce vomiting. Obtain immediate medical attention. If spontaneous vomiting occurs keep head below hips to prevent aspiration of the vomit into the lungs. Obtain immediate medical attention. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to area free from dust. Obtain immediate medical attention. If victim is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
MOST IMPORTANT SYMPTOMS / EFFECTS:	ACUTE: Ingestion causes immediate severe pain in the mouth, throat, and stomach as well as diarrhea and vomiting, from which collapse may result. Vomits usually contain blood and possibly tissue. All tissues which come in contact with this chemical may be damaged. Death may result from ingestion. If the patient survives, permanent damage to the gastrointestinal tract may occur and the person may have permanent difficulty in swallowing. Inhalation causes respiratory irritation which may develop into serious lung injury depending upon the degree of exposure. Serious pneumonia may develop. Eye contact with Caustic Soda solid, dust, mist or solution usually results in immediate pain and can cause permanent eye damage including blindness. Skin contact may result in irritation which may not be immediately painful. Greater exposure results in severe burns with scarring. CHRONIC: Prolonged inhalation exposures may result in upper respiratory irritation and ulceration of the nasal passage. High levels may cause permanent lung injury.
IMMEDIATE MEDICAL ATTENTION / SPECIAL TREATMENT	Immediate first aid or medical attention is required to reduce the chance of permanent injury due to eye contact or skin contact. If swallowed, contact emergency services or Poison Control Center immediately. Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Use extinguishing media appropriate for packaging and surrounding materials.
UNSUITABLE EXTINGUISHING MEDIA:	Avoid using water unless necessary for other materials, in which case, flood to absorb heat generated. Contact with water will evolve heat and could cause ignition of paper, cardboard, etc.
SPECIFIC FIRE HAZARDS:	Solid sodium hydroxide in contact with moisture or water may generate sufficient heat to ignite nearby combustible materials. When moist, sodium hydroxide can react with metals, such as aluminum, tin and zinc, to form flammable and explosive hydrogen gas. Sodium hydroxide can react with a number of commonly encountered materials, such as acids, releasing enough heat to ignite nearby combustible materials. When heated to temperatures greater than 318-323° C (e.g. in a fire), solid sodium hydroxide will flow to low ground. When hot or in the molten state, it can react violently with water causing spattering and releasing an irritating mist. Closed containers may rupture violently when heated.

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HAZARDOUS COMBUSTION PRODUCTS:	Toxic sodium oxide fumes can be generated by thermal decomposition at elevated temperatures.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Sodium hydroxide solid and solutions are very corrosive and at high temperatures, decomposition occurs giving off strong, corrosive fumes of sodium oxide. Do not enter without wearing specialized equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. Chemical protective clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment. Evacuate unnecessary personnel.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Collect dry material by shoveling, liquid material can be removed with a vacuum truck. Collect uncontaminated material for repackaging. Collect contaminated material in an approved container for disposal. Flush spill area thoroughly with water.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

This product is corrosive. Wear personal protective equipment. Wash thoroughly after handling. Avoid contact with skin and eyes. Avoid ingestion. Discard non-rubber shoes. Discard contaminated leather articles (belts, watchbands, etc). Wash clothing before reuse. Caution: When contacting water or dissolving caustic soda in water, large amount of heat will be generated, causing the water to become very hot or even to boil. Handle the solution with precautions as hot object. When mixing with water add product slowly, with constant stirring, to water. Ensure temperature of water does not exceed 95°C to prevent boiling.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in cool, dry area away from incompatibles. Keep containers away from contact with water. Dry all equipment before use. Wash all equipment thoroughly with water when handling is completed. Keep container tightly closed and properly labelled. Empty packages contain residual hazardous material and should be handled as if full.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	ACGIH TLV-TWA = 2 mg/m^3 (ceiling)
ENGINEERING CONTROLS:	Use only with adequate ventilation. If user operations generate dust use process enclosure, local exhaust ventilation or other engineering controls to keep worker exposure below limits. Ensure ventilation equipment is corrosion resistant and separate from other exhaust ventilation systems.
	PERSONAL PROTECTIVE MEASURES
RESPIRATORY PROTECTION:	Approved dust masks required for dust levels below TLV. Use a properly fitted particulate filter respirator complying with an approved standard if airborne concentrations exceeds TLV or if a risk assessment indicates this is necessary.
PROTECTIVE GLOVES:	Rubber gauntlets recommended.
EYE PROTECTION:	Wear tight fitting chemical goggles. Do not wear contact lenses.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Protective clothing as required to prevent contact. Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White beads
ODOUR:	Odourless
ODOUR THRESHOLD:	Not applicable

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pH:	13.0 (1% solution)
MELTING POINT / FREEZING POINT:	318°C
BOILING POINT / RANGE:	1390°C
FLASH POINT:	Not applicable
EVAPORATION RATE:	Not applicable
FLAMMABILITY:	Not applicable
FLAMMABILITY / EXPLOSIVE LIMITS:	Not applicable
VAPOUR PRESSURE:	42 mmHg @ 1000°C
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	2.13
SOLUBILITY:	Soluble in water.
PARTION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not applicable
DECOMPOSITION TEMPERATURE:	Not applicable
VISCOSITY:	Not available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Reacts with water to generate heat.
CHEMICAL STABILITY:	Stable.
POSSIBILITY OF HAZARDOUS REACTIONS:	Sodium hydroxide reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides.
CONDITIONS TO AVOID:	Avoid contact with water and incompatible materials.
INCOMPATIBLE MATERIALS:	Strong acids; may react violently. Water; may generate sufficient heat to ignite combustibles. May react with organ halogen compounds, nitro and chloro organic compounds, and reducing sugars and whey solids.
HAZARDOUS DECOMPOSITION PRODUCTS:	May react with metals generating explosive hydrogen gas.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY:	Not determined
SKIN CONTACT:	Corrosive! May cause severe burns and tissue destruction. There may be a delay between the time of exposure and the onset of irritation depending on the concentration of the product. Prolonged or repeated contact, even to dilute solutions, can cause a high degree of tissue destruction.
EYE CONTACT:	Corrosive! May cause severe damage including burns and blindness. Severity of effects depends on concentration and how soon after exposure the eyes are washed.
INGESTION:	Corrosive! May cause severe burns and complete tissue perforation of mucous membranes of mouth, throat and stomach.
INHALATION:	Exposure to powder, vapour, mist or liquid can produce burns of the respiratory tract. Severe exposures could result in pulmonary edema.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.

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TARGET ORGAN EFFECTS:	Not available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	LC50 – Gambusia affinis (mosquito fish) = 125mg/L/96hr LC50 – Oncorhynchus mykiss (rainbow trout) = 45.4 mg/L/96hr Immobilization EC50 – Daphnia (water flea) = 40.38 mg/L/48hr
PERSISTENCE AND DEGRADABILITY:	Not applicable to inorganic substances.
BIOACCUMULATIVE POTENTIAL:	No information available.
MOBILITY IN SOIL:	No information available.
OTHER ADVERSE EFFECTS:	No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be recycled, or disposed of, in accordance with local regulations.

SECTION 14: TRANSPORTATION INFORMATION

TDG	Regulated
DOT	Regulated
IATA	Regulated
IMDG	Regulated
UN NUMBER:	UN1823
PROPER SHIPPING NAME:	SODIUM HYDROXIDE, SOLID
CLASS:	8
PACKING GROUP:	II
IMDG HAZARDS:	Not a marine pollutant
BULK TRANSPORT:	Not regulated
SPECIAL PRECAUTIONS:	None

SECTION 15: REGULATORY INFORMATION

DSL:	Listed
WHMIS CLASS:	E
TSCA:	Listed

SECTION 16: OTHER INFORMATION

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