CAUSTIC SODA

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: **Diversity Technologies Corp.** DATE: May 14, 2014

8750 -53rd Ave. PHONE: 780-440-4923 **Edmonton, AB T6E 5G2** FAX: 780-469-1899

PRODUCT NAME: Caustic Soda (Sodium Hydroxide)

PRODUCT USE: Oil well drilling fluid additive

CHEMICAL FAMILY: Inorganic sodium salt CAS #: 1310-73-2

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION:

WORKPLACE HAZARD: Corrosive solid TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Sodium hydroxide, solid

TDG CLASSIFICATION: 8

UN NUMBER (PIN): UN1823

PACKING GROUP:

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT % (w/w) CAS NUMBER LD50Oral-Rat LC50Inhal-Rat **ACGIH-TLV** Sodium hydroxide 95-99 1310-73-2 No information No information 2 mg/m^3

Ceiling

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: BEYE CONTACT BRIDGE STION BY BEYER CONTACT BRIDGESTION

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.

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.

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.

No information available. CARCINOGENICITY: TERATOGENICITY: No information available. REPRODUCTIVE TOXICITY: No information available. MUTAGENICITY: No information available. SYNERGISTIC PRODUCTS: No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Immediately flush eyes with running water for at least 60 minutes. Hold eyelids apart to ensure thorough flushing. Flushing within seconds of contact is essential to achieve maximum effectiveness. Continue flushing until irritation or burning ceases, then obtain medical attention.

EYE CONTACT: Flush thoroughly with water while removing contaminated clothing and footwear. Obtain medical attention.

INGESTION: Do not induce vomiting. If conscious rinse out mouth and give 1 to 2 glasses of water to drink. If vomiting occurs keep head below hips to prevent aspiration and then give water. Repeat drinks of water every 10 minutes. Obtain immediate medical attention. Never give anything my mouth unless victim is fully conscious.

INHALATION: Move to area free from contaminant. Apply oxygen or artificial respiration if required. Obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR: White beads; odourless 2.13

SPECIFIC GRAVITY:

BOILING POINT (°C): 1390 MELTING POINT (°C): 318

SOLUBILITY IN WATER: Completely soluble pH: 13.0 (1% solution)

PERCENT VOLATILE BY VOLUME:

EVAPORATION RATE:

VAPOUR PRESSURE (mmHg):

VAPOUR DENSITY (air = 1):

BULK DENSITY:

Not applicable

Not applicable

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not applicable FLAMMABLE LIMITS: Not applicable

EXTINGUISHING MEDIA:

Use media suitable for packaging and surrounding

materials.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus required for fire-

fighting personnel

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contact with water can cause violent exothermic reaction.

HAZARDOUS COMPUSTION PRODUCTS: Sodium oxide fumes may be generated by thermal decomposition

at high temperatures.

SECTION VII: REACTIVITY DATA

INCOMPATIBILITY (CONDITIONS TO AVOID):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.

CONDITIONS OF REACTIVITY: Not available HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

D MAY OCCUR

SECTION VIII: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Approved dust masks required for dust levels below TLV. Use approved

respirators with dust cartridges, or SCBA, if airborne concentration

exceeds TLV.

VENTILATION: Use local exhaust ventilation, process enclosure or other engineering

controls to maintain concentration of airborne dust below TLV.

PROTECTIVE GLOVES: Rubber, neoprene or vinyl recommended.

EYE PROTECTION: Chemical goggles with full face-shield recommended. Do not wear

contact lenses.

OTHER PROTECTIVE EQUIPMENT (SPECIFY): As required to prevent contact. Ensure eyewash station and emergency

shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

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. Store in a cool, well-ventilated area away from incompatibles. Keep container tightly closed and properly labeled. Empty packages contain residual hazardous material and must be handled with the same care and attention as is full.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Evacuate unnecessary personnel. 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.

WASTE DISPOSAL METHOD

Dispose 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 packaging contains residual hazardous material and must be disposed of according to local regulations.

SECTION IX: PREPARATION

The information contains herein is given in good faith, but no warranty, expressed or implied, is made.

DATE ISSUED: **May 14, 2014** BY: Regulatory Affairs SUPERSEDES: May 18 2011 PHONE: 780-440-4923