

**SECTION I: IDENTIFICATION OF PRODUCT**

COMPANY: **Diversity Technologies Corp.** DATE: **January 5, 2016**  
**8750 – 53<sup>rd</sup> Ave.** PHONE: **780-440-4923**  
**Edmonton, AB T6E 5G2** FAX: **780-469-1899**

PRODUCT NAME: **2K7 Water Soluble Pak**

PRODUCT USE: Oilwell drilling fluid biocide  
CHEMICAL FAMILY: 2-Bromo-2-Nitropropane-1,3-Diol CAS #: 52-51-7

**WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)**

WHMIS CLASSIFICATION: B4; D1B  
Covered under PMRA #21790  
WORKPLACE HAZARD: Flammable solid; toxic; skin and eye irritant

**TRANSPORTATION OF DANGEROUS GOODS (TDG)**

PROPER SHIPPING NAME: 2-Bromo-2-Nitropropane-1,3-Diol  
TDG CLASSIFICATION: 4.1  
UN NUMBER (PIN): UN3241  
PACKING GROUP: III

**SECTION II: HAZARDOUS INGREDIENTS**

INGREDIENT	% (w/w)	CAS NUMBER	LD <sub>50</sub> Oral-Rat	LC <sub>50</sub> Inhal-Rat	ACGIH-TLV
2-Bromo-2-nitropropane-1,3-diol	98 min	52-51-7	307mg/kg	Not determined	Not established

**SECTION III: HEALTH HAZARDS**

ROUTE OF ENTRY:  EYE CONTACT  SKIN CONTACT  INHALATION  INGESTION  
EYE CONTACT: The solid and concentrated solutions will irritate the eyes.  
SKIN CONTACT: The solid and concentrated solutions will irritate the skin. May cause allergic reaction in some cases.  
INGESTION: Material is toxic if ingested in sufficient quantities. Symptoms may include nausea, dizziness, central nervous system effects and possibly death.  
INHALATION: Inhalation of dust may cause irritation of the bronchial passages and lungs. May be absorbed through the bronchial and lung tissues.  
CARCINOGENICITY: Not carcinogenic on skin painting in mice, or when given in the drinking water to rats.  
TERATOGENICITY: Not teratogenic or embryotoxic in rats and rabbits.

REPRODUCTIVE TOXICITY: No information available.

MUTAGENICITY: Not mutagenic in bacterial systems, or host-mediated and dominant lethal assays in mice.

SYNERGISTIC PRODUCTS: No information available.

#### **SECTION IV: FIRST AID MEASURES**

SKIN CONTACT: Remove contaminated clothing. Wash affected area with plenty of water. If irritation persists, or develops, seek medical attention.

EYE CONTACT: Flush with gently flowing warm water for minimum 15 minutes. Obtain immediate medical attention when flushing period is completed.

INGESTION: Rinse mouth and give one to two glasses of water to drink. Get immediate medical attention. Never give anything by mouth if victim is unconscious, rapidly losing consciousness or convulsing.

INHALATION: Move patient to fresh air. Apply oxygen or artificial respiration if required. Obtain immediate medical attention.

#### **SECTION V: PHYSICAL DATA**

APPEARANCE AND ODOUR: White crystalline solid; faint characteristic odour

SPECIFIC GRAVITY: Not available

BOILING POINT (°C): Decomposes at melting point

MELTING POINT (°C): 130 (exponential exotherm at 140°C)

SOLUBILITY IN WATER: Soluble pH: <7.0 (1% solution)

PERCENT VOLATILE BY VOLUME: Not available

EVAPORATION RATE: Not available

VAPOUR PRESSURE (mmHg): Not available

VAPOUR DENSITY (air = 1): Not available

BULK DENSITY: Not available

#### **SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT: Not flammable

FLAMMABLE LIMITS: Not available

EXTINGUISHING MEDIA: Water, water fog, foam, CO<sub>2</sub>, and dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus required for fire fighting personnel. Remove containers from fire area, or cool with water spray, if possible.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When heated above 140°C the solid decomposes exothermically liberating toxic hydrogen bromide and oxides of nitrogen and swelling to give a sticky, tarry mass, which burns readily in a fire.

HAZARDOUS COMBUSTION: No information available.

PRODUCTS:

### SECTION VII: REACTIVITY DATA

STABILITY:	<input checked="" type="checkbox"/> STABLE	<input type="checkbox"/> UNSTABLE
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers. At temperatures above 140°C the product will decompose exothermically. The decomposition temperature is significantly lowered in the presence of caustics to an extent proportional to the amount of caustic present.	
CONDITIONS OF REACTIVITY:	Heat.	
HAZARDOUS DECOMPOSITION PRODUCTS:	Toxic hydrogen bromide gas and oxides of nitrogen upon decomposition.	
HAZARDOUS POLYMERIZATION:	<input checked="" type="checkbox"/> WILL NOT OCCUR	<input type="checkbox"/> MAY OCCUR

### SECTION VIII: PREVENTIVE MEASURES

#### SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Approved respirator or dust mask where dust, mist, or spray may be generated. Manufacturer in-house exposure level = 0.5 mg/m <sup>3</sup> .
VENTILATION:	Local exhaust recommended if PEL is exceeded.
PROTECTIVE GLOVES:	Chemical resistant gloves; plastic or rubber.
EYE PROTECTION:	Goggles and /or full-face shield. Do not wear contact lenses.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Impervious protective clothing and chemical resistant safety shoes. Ensure emergency shower and eye wash station are available.

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with skin and avoid breathing dust. Do not eat, drink or smoke in work area. Wash hands prior to eating, drinking, or using bathroom. Any protective clothing, clothing or shoes, which become contaminated with this product, should be removed immediately and thoroughly laundered before reuse.

Store in closed, properly labeled containers indoors in a dry area away from oxidizing materials, alkaline materials, sources of heat or ignition, and away from food, drink and animal feeding stuffs. Do not remove or deface labels or tags. Slowly add this product to water with constant stirring and avoid splashing. Full protective equipment as outlined above should be worn. Do not enter confined spaces such as tanks or pits without following proper entry procedures.

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

Cleanup personnel must wear proper protective equipment. Reclaim into closed containers for normal use or disposal. Remaining material may be swept up or vacuumed up. Avoid creating dust cloud. Remove the spillage for proper disposal. Clean the area with detergent and water. Collect washing for proper disposal. Prevent run off into ground or surface water or sewers.

Inform Environment Canada at office of Conservation and Protection Service of any spills of this material no matter what quantity. Notify Alberta Public Safety Services (Edmonton: 422-9600 or 1-800-272-9600) of any uncontrolled spills of this material.

### WASTE DISPOSAL METHOD

Burn in a licensed incinerator fitted with an after burner and efficient air scrubbing device or bury in a licensed chemical landfill site, in accordance with federal, provincial, and local disposal regulations and in accordance with PMRA regulations covering the licensing and use of this product. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty packages that have not been cleaned and purged must be recycled or disposed of in accordance with local hazardous waste regulations.

### SECTION IX: PREPARATION

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

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BY: Regulatory Affairs  
PHONE: 780-440-4923