

# MATERIAL SAFETY DATA SHEET

## SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: Diversity Technologies Corp.      DATE: March 13, 2016  
8750-53rd Ave.      PHONE: 780-468-4064  
Edmonton, AB T6E 5G2      FAX: 780-469-1899

PRODUCT NAME: TORQ-TROL II

PRODUCT USE: Oil well drilling fluid additive.  
CHEMICAL FAMILY: Sodium salt solution      CAS#: Not applicable

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D2A  
WORKPLACE HAZARD: Very toxic (contains ethylene glycol)

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG  
TDG CLASSIFICATION: Not applicable  
UN NUMBER (PIN): Not applicable  
PACKING GROUP: Not applicable

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	% (w/w)	<u>CAS NUMBER</u>	LD <sub>50</sub> Oral-Rat	LC <sub>50</sub> Inhal-Rat	ACGffi-TLV
Ethylene glycol	5-10	107-21-1	4700 mg/kg	Not available	100mg/m <sup>3</sup>

## SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY:  EYE CONTACT  SKIN  INHALATION  INGESTION  
EYE CONTACT: May cause severe irritation. Prolonged contact may cause damage to eyes.  
SKIN CONTACT: May cause slight irritation. Ethylene glycol is absorbed through the skin, but significant harmful effects are not expected by this route of exposure. Prolonged or repeated contact may cause dermatitis.  
INGESTION: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, central nervous system effects, convulsions and coma. Cardiac failure and pulmonary oedema may develop. Product oral toxicity: LD<sub>50</sub> = 2000 – 5000 mg/kg. Severe liver and kidney damage may result from swallowing large quantities of ethylene glycol: May be fatal

INHALATION:	Vapours or mist may cause irritation of the nose and throat and possibly irritation. High concentration of vapour may cause nausea, vomiting, headache, and dizziness and irregular eye movements.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	Ethylene glycol is teratogenic and embryotoxic in animal studies.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
SYNERGISTIC PRODUCTS:	No information available.

#### SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Wash thoroughly with water; remove contaminated clothing and footwear. If irritation develops, or persists, obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing warm water for at least 20 minutes. Obtain medical attention when flushing period is complete.
INGESTION:	Do not induce vomiting. If vomiting should occur spontaneously, keep airway clear. Obtain immediate medical attention.
INHALATION:	Move to fresh air. Administer oxygen or artificial respiration as required. Obtain medical attention.

#### SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Brown liquid; characteristic odour	
SPECIFIC GRAVITY:	Not available	
BOILING POINT (°C):	Not available	
MELTING POINT (°C):	-10	
SOLUBILITY IN WATER:	Miscible	pH: 6 - 8 (10% sol'n)
PERCENT VOLATILE BY VOLUME:	Not available	
EVAPORATION RATE:	Not available	
VAPOUR PRESSURE (mmHg):	Not available	
VAPOUR DENSITY (air= 1):	Not available	
BULK DENSITY:	Not applicable	

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

FLASH POINT:	Not available
FLAMMABLE LIMITS:	Not available
EXTINGUISHING MEDIA:	CO <sub>2</sub> , foam, dry chemical or water spray
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire fighting personnel. Move containers from fire area, or cool with water spray, if possible.

UNUSUAL FIRE AND  
EXPLOSION HAZARDS:

None known.

### SECTION VII: REACTIVITY DATA

STABILITY: INCOMPATIBILITY (CONDITIONS TO AVOID):	STABLE [XX]	UNSTABLE [ ]
CONDITIONS OF REACTIVITY:	Strong oxidizing agents and strong alkalies.	
HAZARDOUS DECOMPOSITION PRODUCTS:	Not applicable	
HAZARDOUS POLYMERIZATION:	Oxides of carbon and oxides of sulphur on combustion.	
	WILL NOT OCCUR [XX]	MAY OCCUR [ ]

### SECTION VIII: PREVENTATIVE MEASURES

#### SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Not required under normal conditions of use. If mists or vapours are generated during use, recommend an approved respirator with organic vapour cartridges be used.
VENTILATION:	Use local exhaust ventilation, process enclosure or other engineering controls to maintain vapour and mist concentration in air below TLV.
PROTECTIVE GLOVES:	Suggest plastic or rubber.
EYE PROTECTION:	Wear chemical goggles when handling. Standard
OTHER PROTECTIVE EQUIPMENT (Specify):	work clothes and work shoes. Ensure eyewash station and emergency shower are available.

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

Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Avoid ingestion. Avoid breathing mist and spray. Wear suitable protective equipment to prevent contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Keep container closed when not in use. Product may congeal or stratify if cold; warm and mix well before using. Store in a dry area away from incompatibles and ignition sources.

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

Use appropriate safety equipment. Evacuate nonessential personnel from spill area. Stop leak if possible to do so without risk. Dike to contain spill to prevent water pollution. Recover uncontaminated material for repackaging; recover contaminated material in approved container for disposal. Use absorbent to collect residual and small spills. Collect contaminated absorbent in approved containers for disposal. Wash spill area thoroughly with water.

**WASTE DISPOSAL METHOD**

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.

**SECTIONIX: PREPARATION**

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,  
BUT NOWARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE ISSUED:	March 13, 2016	BY:	Product safety committee
SUPERSEDES:	March 01, 2013	PHONE:	780-440-4923