


## Brine Buffer

SECTION 1. IDENTIFICATION		
<b>Product Identifier</b>	Brine Buffer	<b>Version: 2</b> <b>Effective Date: 18 December, 2018</b>
<b>Other Means Of Identification</b>	None	
<b>Initial Supplier Identifier</b>	Blackstone Drilling Fluids Limited 1600, 510 – 5 <sup>th</sup> Street SW Calgary, AB T2P 3S2 Tel: 403-262-5955	
<b>Recommended Use and Restrictions On Use</b>	Drilling fluid additive. No restrictions.	
<b>Product Family</b>	Blend	
<b>24 Hour Emergency Day</b>	CANUTEC, 613-996-6666 or *666 on a cellular phone (Canada Only), 24 Hours /	

SECTION 2. HAZARD IDENTIFICATION	
<b>Hazard Classification</b>	
<b>Physical Hazard</b>	Not classified
<b>Health Hazard</b>	Acute toxicity (oral) – Category 4 Skin Corrosion – Category 1B Serious eye damage/irritation – Category 1
<b>Signal Word</b>	Danger!
<b>Hazard Statement</b>	Harmful if swallowed. Causes severe skin burns and eye irritation. Causes serious eye irritation.
<b>Precautionary Prevention</b>	Wash skin thoroughly after handling. Do not eat, drink or smoke <b>Statement</b> when using this product. Wear protective gloves/protective clothing/eye protection.

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<b>Precautionary Response Statement</b>	<p>IF SWALLOWED: call a Poison Center or doctor/physician if you feel unwell. Rinse mouth.</p> <p>If ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present or easy to do. Continue rinsing. Immediately call Poison Centre or doctor/physician.</p> <p>Wash contaminated clothing before reuse.</p>
<b>Precautionary Storage</b>	Store in well ventilated place. <b>Statement</b>
<b>Precautionary Disposal Statement</b>	Dispose of contents/container to an approved waste disposal plant.
<b>Other Hazards</b>	None

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name or Synonyms	CAS NO. and Other Unique Identifiers	% by weight
Alkoxylated amine	N/A	68953-70-8	60-100
Balance of ingredients are considered non-hazardous and constitute a proprietary blend			

### SECTION 4. FIRST-AID MEASURES

<b>Eye Contact</b>	Flush eyes with water for 15 minutes. Seek medical attention.
<b>Skin Contact</b>	Wash with water and soap.
<b>Inhalation</b>	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
<b>Ingestion</b>	Rinse mouth with water if conscious. Do not induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention.
<b>Most Important Symptoms and Effects Both Acute and Delayed</b>	<p>If on skin- symptoms may include pain, local redness and tissue damage.</p> <p>If in eyes – severe irritation and possible corneal injury.</p>

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<b>Immediate Medical Attention and Special Treatment</b>	Chemical eye burns may require extended irrigation. If burn is present, treat as any thermal burn, after decontamination.
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**SECTION 5. FIRE-FIGHTING MEASURES**

<b>Suitable and Unsuitable Media</b>	Use extinguishing media suitable for surrounding fire. <b>Extinguishing Media</b>
<b>Hazardous Combustion Products</b>	Oxides of carbon and nitrogen.
<b>Specific Hazards Arising From the Product</b>	During fire, smoke may contain the original material in addition to toxic and/or irritating gases (nitrogen oxide, carbon monoxide).
<b>Special Protective Equipment and Precautions For Fire Fighters</b>	Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions, Protective Equipment and Emergency Procedures</b>	Gloves, safety glasses and footwear suitable for workplace. Evacuate all unnecessary personnel. Secure area. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Prevent from entering soil, ditches, sewer, waterways.
<b>Methods and Materials For Containment and Clean-Up</b>	Soak or pump up split material. Use clay, vermiculite or diatomaceous earth to soak up spilled material. Place in a suitable container for disposal. Wash area with soap and water to remove residues which can cause a slip hazard.

**SECTION 7. HANDLING AND STORAGE**

<b>Precautions For Safe Handling</b>	Handle with care. Container, even those emptied, may contain vapours. Avoid breathing vapour. Wash skin thoroughly after handling.
<b>Conditions For Safe Storage</b>	Keep containers closed when not in use.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Alkoxylated amine	3ppm	6ppm		
<b>Exposure Controls</b>	Local exhaust ventilation			
<b>Appropriate Engineering Controls</b>	Ensure adequate ventilation. Ensure safety shower and eye wash station are available.			
<b>Individual Protective Measures</b>				
<b>Eye / Face Protection</b>	Safety glasses.			
<b>Skin Protection</b>	Nitrile gloves.			
<b>Respiratory Protection</b>	Should be worn when exposure limits are exceeded. The following should be effective types of air-purifying respirators. Organic vapor cartridge.			

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Yellow to brown liquid
<b>Odour</b>	ammoniacal
<b>Odour Threshold</b>	Not data
<b>pH (1% solution)</b>	11
<b>Flash Point</b>	>93 °C
<b>Boiling Point and Boiling Range</b>	Not data
<b>Melting Point / Freezing point</b>	10 °C
<b>Evaporation Rate</b>	Not data
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper and Lower Flammability or Explosive Limits</b>	No data
<b>Vapour Pressure</b>	Not data
<b>Vapour Density</b>	Not data
<b>Relative Density</b>	1.02
<b>Solubility</b>	Fully miscible
<b>Partition co-efficient, n-Octanol/Water</b>	No data
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	No data
<b>Viscosity</b>	No data

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### SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable.
<b>Chemical Stability</b>	The product is stable
<b>Possibility of Hazardous Reactions</b>	Will not occur
<b>Conditions to Avoid</b>	Elevated temperatures or fire conditions (this material will burn if sufficient heat is applied).
<b>Incompatible Materials</b>	Strong oxidizers.
<b>Hazardous Decomposition Products</b>	Not expected to decompose under normal conditions of use.

### SECTION 11. TOXICOLOGICAL INFORMATION

<b>Component Toxicity</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Alkoxylated amine	1.09 g/kg(rat)	2.5 g/kg (rat)	4h, vapour > 1.48 mg/L
<b>Likely Routes of Exposure</b>			
<b>Skin:</b>	May cause burns.		
<b>Eyes:</b>	May cause several irritation with corneal injury.		
<b>Inhalation:</b>	Respiratory tract irritation.		
<b>Ingestion:</b>	Ingestion may result in gastrointestinal irritation, burns of the mouth and throat.		
<b>Acute Toxicity Estimates (ATE)</b>	Low toxicity if swallowed.		
<b>STOT (Specific Target Organ Toxicity) – Single Exposure</b>	Not classified		
<b>Aspiration Toxicity</b>	Not classified		
<b>STOT (Specific Target Organ Toxicity) – Repeated Exposure</b>	Not classified		
<b>Skin Corrosion / Irritation</b>	May cause burns		
<b>Serious Eye Damage / Irritation</b>	Severe irritant		
<b>Respiratory or Skin Sensitization</b>	None expected		
<b>Carcinogenicity</b>	Not listed.		

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<b>Reproductive Toxicity</b>	
- <b>Sexual Function and Fertility</b>	Not classified
- <b>Development of Offspring</b>	Not classified
- <b>Effects on or via Lactation</b>	Not classified
<b>Germ Cell Mutagenicity</b>	Not classified
<b>Interactive Effects</b>	None
<b>Other Information</b>	N/A

### SECTION 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	LC50 (Carp) semi-static test, 96h 349 mg/L EC50 activated sludge >1,000mg/L
<b>Persistence and Degradability</b>	Will not persist.
<b>Bioaccumulative Potential</b>	Not expected to bio accumulate
<b>Biodegradability</b>	Readily degradable. >91% degradable in 21 days. OECD test guideline 301A.
<b>Mobility in Soil</b>	No data
<b>Other Adverse Effects</b>	N/A

### SECTION 13. DISPOSAL CONSIDERATIONS

<b>Disposal Considerations</b>	Dispose of contents / container in accordance with local regulations.
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### SECTION 14. TRANSPORT INFORMATION

<b>UN Number</b>	2491
<b>UN Proper Shipping Name</b>	Ethanolamine
<b>Transport Hazard Class(es)</b>	8
<b>Packaging Group</b>	III
<b>Environmental Hazards</b>	No
<b>Bulk Transport</b>	Not applicable
<b>Special Precaution</b>	Not applicable
<b>DOT Erg#</b>	Not applicable

**Brine Buffer****SECTION 15. REGULATORY INFORMATION**

<b>Canada – DSL Inventory</b>	All components of this product are on the Domestic Substances List (DSL)
<b>TSCA</b>	All components of this product are on the Toxic Substances Control Act (TSCA) Inventory List
<b>Additional Information</b>	None

**SECTION 16. OTHER INFORMATION**

<b>NFPA Rating</b>	Health-2/ Flammability-1/Reactivity-1/Special Hazard-Not applicable
<b>HMIS Rating</b>	Health-2/Flammability-1/Reactivity-1/Personal Protection-See Section 8.
<b>Prepared by:</b>	Blackstone Drilling Fluids, Technical Department
<b>Date Prepared:</b>	18 <sup>th</sup> December, 2018
<b>Date of Latest Revision:</b>	18 <sup>th</sup> December, 2018