

**MATERIAL SAFETY DATA SHEET**

**Product Trade Name:** **ENVIROMUL® TIGHT-EMULSION SYSTEM with BARACARB®**

**Revision Date:** 03-Jan-2012

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Trade Name:** ENVIROMUL® TIGHT-EMULSION SYSTEM with BARACARB®  
**Synonyms:** None  
**Chemical Family:** Blend  
**Application:** Mud System

**Manufacturer/Supplier** Baroid Fluid Services  
Product Service Line of Halliburton  
P.O. Box 1675  
Houston, TX 77251  
Telephone: (281) 871-4000  
Emergency Telephone: (281) 575-5000

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substances</b>	<b>CAS Number</b>	<b>PERCENT</b>	<b>ACGIH TLV-TWA</b>	<b>OSHA PEL-TWA</b>
Mineral oil		30 - 60%	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Calcium carbonate	471-34-1	30 - 60%	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>
Calcium chloride	10043-52-4	5 - 10%	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	0 - 1%	0.025 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> %SiO <sub>2</sub> + 2

**More restrictive exposure limits may be enforced by some states, agencies, or other authorities.**

### 3. HAZARDS IDENTIFICATION

#### Hazard Overview

**CAUTION! - ACUTE HEALTH HAZARD**

May cause eye, skin, and respiratory irritation. May be harmful if swallowed.

**DANGER! - CHRONIC HEALTH HAZARD**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud if this product becomes dry. Avoid breathing or creating dust. Use only with adequate ventilation to keep exposures below recommended exposure limits. Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using dried product. Review the Material Safety Data Sheet (MSDS) for this product, which has been provided to your employer.

### 4. FIRST AID MEASURES

**Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Skin**

Wash with soap and water. Get medical attention if irritation persists.

**Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Ingestion**

Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

**Notes to Physician**

Not Applicable

### 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	255
Flash Point/Range (C):	123
Flash Point Method:	PMCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	0.9
Flammability Limits in Air - Upper (%):	6

**Fire Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Special Exposure Hazards**

Decomposition in fire may produce toxic gases.

**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**NFPA Ratings:**

Health 1, Flammability 1, Reactivity 0

**HMIS Ratings:**

Health 1\*, Flammability 1, Reactivity 0

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Use appropriate protective equipment.

**Environmental Precautionary Measures**

Prevent from entering sewers, waterways, or low areas.

**Procedure for Cleaning /  
Absorption**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials.  
Scoop up and remove.

## 7. HANDLING AND STORAGE

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing mist. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud if this product becomes dry. Avoid breathing or creating dust. Use only with adequate ventilation to keep exposures below recommended exposure limits. Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using dried product.

**Storage Information**

Store away from oxidizers. Store in a cool well ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits listed in Section 2.

**Respiratory Protection**

When the potential exists for dust of this product to be created, wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product.

When the potential exists for aerosols or mists of this product to be created, use a respirator with a particulate filter for oil aerosols or a supplied-air respirator as needed for adequate protection.

When the potential exists for heated vapors or fumes of this product to be created, use a respirator with an organic-vapor filter or a supplied-air respirator as needed for adequate protection.

**Hand Protection**

Impervious rubber gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Color:</b>	Brown
<b>Odor:</b>	Mild hydrocarbon
<b>pH:</b>	Not Determined
<b>Specific Gravity @ 20 C (Water=1):</b>	1.44
<b>Density @ 20 C (lbs./gallon):</b>	12
<b>Bulk Density @ 20 C (lbs/ft3):</b>	Not Determined
<b>Boiling Point/Range (F):</b>	490
<b>Boiling Point/Range (C):</b>	254
<b>Freezing Point/Range (F):</b>	Not Determined
<b>Freezing Point/Range (C):</b>	Not Determined
<b>Vapor Pressure @ 20 C (mmHg):</b>	0.9
<b>Vapor Density (Air=1):</b>	> 8
<b>Percent Volatiles:</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate=1):</b>	Not Determined
<b>Solubility in Water (g/100ml):</b>	Insoluble
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (lbs./gallon):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

## 10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	<p>May cause respiratory irritation. Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).</p> <p>Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).</p>
Skin Contact	May cause skin irritation. May cause an allergic skin reaction.
Eye Contact	May cause eye irritation.
Ingestion	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Aggravated Medical Conditions	Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

**Other Information** For further information consult "Adverse Effects of Crystalline Silica Exposure" published by the American Thoracic Society Medical Section of the American Lung Association, American Journal of Respiratory and Critical Care Medicine, Volume 155, pages 761-768 (1997).

#### Toxicity Tests

<b>Oral Toxicity:</b>	Not determined
<b>Dermal Toxicity:</b>	Not determined
<b>Inhalation Toxicity:</b>	Not determined
<b>Primary Irritation Effect:</b>	Not determined
<b>Carcinogenicity</b>	Refer to <u>IARC Monograph 68, Silica, Some Silicates and Organic Fibres</u> (June 1997).
<b>Genotoxicity:</b>	Not determined
<b>Reproductive / Developmental Toxicity:</b>	Not determined

## 12. ECOLOGICAL INFORMATION

<b>Mobility (Water/Soil/Air)</b>	Not determined
<b>Persistence/Degradability</b>	Not determined
<b>Bio-accumulation</b>	Not determined

#### Ecotoxicological Information

<b>Acute Fish Toxicity:</b>	TLM48: 181 mg/l (Arcatia tonsa)
<b>Acute Crustaceans Toxicity:</b>	Not determined

<b>Acute Algae Toxicity:</b>	E(B)C50: 491 mg/l (Skeletonema costatum)
<b>Chemical Fate Information</b>	Not determined
<b>Other Information</b>	Not applicable

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal Method</b>	Disposal should be made in accordance with federal, state, and local regulations.
<b>Contaminated Packaging</b>	Follow all applicable national or local regulations.

### 14. TRANSPORT INFORMATION

#### Land Transportation

**DOT**  
Not restricted

**Canadian TDG**  
Not restricted

**ADR**  
Not restricted

#### Air Transportation

**ICAO/IATA**  
Not restricted

#### Sea Transportation

**IMDG**  
Not restricted

#### Other Transportation Information

**Labels:** None

### 15. REGULATORY INFORMATION

#### US Regulations

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EPA SARA Title III Extremely Hazardous Substances</b>	Not applicable
<b>EPA SARA (311,312) Hazard Class</b>	Acute Health Hazard Chronic Health Hazard
<b>EPA SARA (313) Chemicals</b>	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	Not applicable.

<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
<b>California Proposition 65</b>	The California Proposition 65 regulations apply to this product.
<b>MA Right-to-Know Law</b>	One or more components listed.
<b>NJ Right-to-Know Law</b>	One or more components listed.
<b>PA Right-to-Know Law</b>	One or more components listed.
<b>Canadian Regulations</b>	
<b>Canadian DSL Inventory</b>	All components listed on inventory or are exempt.
<b>WHMIS Hazard Class</b>	D2A Very Toxic Materials Crystalline silica

## 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS

Not applicable

**Additional Information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

**Disclaimer Statement** This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**\*\*\*END OF MSDS\*\*\***