

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:** **BAROID® 100 SYSTEM with DIESEL and BARODENSE®**

**Revision Date:** 04-Jan-2011

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** BAROID® 100 SYSTEM with DIESEL and BARODENSE®  
**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

**Prepared By** Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Hematite	1317-60-8	30 - 60%	Not applicable	Not applicable
Diesel	68476-34-6	30 - 60%	100 mg/m <sup>3</sup>	Not applicable
Crystalline silica, quartz	14808-60-7	1 - 5%	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 cause headache, dizziness, and other central nervous system effects. Combustible.

#### **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. Avoid breathing dust. Avoid creating dusty conditions. 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 this product. Review the Material Safety Data Sheet (MSDS) for this product, which has been provided to your employer.

## 4. FIRST AID MEASURES

<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and laundry before reuse.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<b>Ingestion</b>	Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.
<b>Notes to Physician</b>	Not Applicable

## 5. FIRE FIGHTING MEASURES

<b>Flash Point/Range (F):</b>	Not Determined	<b>Min:</b> > 150
<b>Flash Point/Range (C):</b>	Not Determined	<b>Min:</b> > 65
<b>Flash Point Method:</b>	PMCC	
<b>Autoignition Temperature (F):</b>	495	
<b>Autoignition Temperature (C):</b>	257	
<b>Flammability Limits in Air - Lower (%):</b>	0.7	
<b>Flammability Limits in Air - Upper (%):</b>	6	
<b>Fire Extinguishing Media</b>	Water fog, carbon dioxide, foam, dry chemical.	
<b>Special Exposure Hazards</b>	Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases.	
<b>Special Protective Equipment for Fire-Fighters</b>	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.	
<b>NFPA Ratings:</b>	Health 1, Flammability 2, Reactivity 0	
<b>HMIS Ratings:</b>	Health 1*, Flammability 2, Reactivity 0	

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautionary Measures</b>	Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.
<b>Environmental Precautionary Measures</b>	Prevent from entering sewers, waterways, or low areas.
<b>Procedure for Cleaning / Absorption</b>	Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. HANDLING AND STORAGE

<b>Handling Precautions</b>	Wash hands after use. Launder contaminated clothing before reuse. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.
<b>Storage Information</b>	Store away from oxidizers. Keep from heat, sparks, and open flames. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Engineering Controls</b>	Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation. Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits listed in Section 2.
<b>Respiratory Protection</b>	Organic vapor respirator with a dust/mist filter. Positive pressure self-contained breathing apparatus in enclosed areas.
<b>Hand Protection</b>	Impervious rubber gloves.
<b>Skin Protection</b>	Rubber apron.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	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>	Diesel
<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>	300
<b>Boiling Point/Range (C):</b>	148
<b>Freezing Point/Range (F):</b>	Not Determined
<b>Freezing Point/Range (C):</b>	Not Determined
<b>Vapor Pressure @ 20 C (mmHg):</b>	Not Determined
<b>Vapor Density (Air=1):</b>	Not Determined
<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
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	Not Determined
<b>Molecular Weight (g/mole):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

<b>Stability Data:</b>	Stable
<b>Hazardous Polymerization:</b>	Will Not Occur
<b>Conditions to Avoid</b>	Keep away from heat, sparks and flame.
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers.
<b>Hazardous Decomposition Products</b>	Oxides of nitrogen. Carbon monoxide and carbon dioxide.
<b>Additional Guidelines</b>	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

<b>Principle Route of Exposure</b>	Eye or skin contact, inhalation.
	BAROID® 100 SYSTEM with DIESEL and BARODENSE®

<b>Inhalation</b>	<p>May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.</p> <p>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>
<b>Skin Contact</b>	May cause skin defatting with prolonged exposure. Can dry skin.
<b>Eye Contact</b>	May cause eye irritation.
<b>Ingestion</b>	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
<b>Aggravated Medical Conditions</b>	Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.
<b>Chronic Effects/Carcinogenicity</b>	<p><b>Silicosis:</b> 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.</p> <p><b>Cancer Status:</b> 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, <u>Silica, Some Silicates and Organic Fibres</u> (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).</p> <p>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.</p> <p>Prolonged or repeated application of a similar product to the skin of laboratory mice without washing between applications resulted in increased incidence of skin tumors. It is suspected that tumors may be due in part to severely irritated conditions from continuous contact with the product. Limited studies on oils that are very active carcinogens have shown washing the animals' skin with soap and water between applications greatly decreases the incidence of tumors. In light of these studies, good personal hygiene is essential with the use of this product.</p>
<b>Other Information</b>	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).
<b>Toxicity Tests</b>	
<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>	Slowly biodegradable
<b>Bio-accumulation</b>	Not determined

### Ecotoxicological Information

<b>Acute Fish Toxicity:</b>	Not determined
<b>Acute Crustaceans Toxicity:</b>	Not determined
<b>Acute Algae Toxicity:</b>	Not determined
<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

**DOT (Bulk)**  
NA1993, Diesel Fuel Solution, Combustible Liquid, III

**Canadian TDG**  
Not restricted

**ADR**  
Not restricted

### Air Transportation

**ICAO/IATA**  
Not restricted

### Sea Transportation

**IMDG**

Not restricted

**Other Transportation Information**

Labels: Combustible

**15. REGULATORY INFORMATION****US Regulations****US TSCA Inventory** All components listed on inventory or are exempt.**EPA SARA Title III Extremely Hazardous Substances** Not applicable**EPA SARA (311,312) Hazard Class** Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard**EPA SARA (313) Chemicals** This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).**EPA CERCLA/Superfund Reportable Spill Quantity** Not applicable.**EPA RCRA Hazardous Waste Classification** If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.**California Proposition 65** The California Proposition 65 regulations apply to this product.**MA Right-to-Know Law** One or more components listed.**NJ Right-to-Know Law** One or more components listed.**PA Right-to-Know Law** One or more components listed.**Canadian Regulations****Canadian DSL Inventory** All components listed on inventory or are exempt.**WHMIS Hazard Class** B3 Combustible Liquids  
D2B Toxic Materials  
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**

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