

## SAFETY DATA SHEET

**Product Trade Name:** BaraBlend®-657

**Revision Date:** 04-Jan-2016

**Revision Number:** 0

### 1. Identification

#### 1.1. Product Identifier

**Product Trade Name:** BaraBlend®-657  
**Synonyms:** None  
**Chemical Family:** Mineral Blend  
**Internal ID Code:** HM008243

#### 1.2 Recommended use and restrictions on use

**Application:** Loss Circulation Material  
**Uses Advised Against:** Consumer use

#### 1.3 Manufacturer's Name and Contact Details

##### Manufacturer/Supplier

Baroid Fluid Services  
Product Service Line of Halliburton  
P.O. Box 1675  
Houston, TX 77251  
Telephone: (281) 575-5000  
Emergency Telephone: 1-866-519-4752 (US, Canada, Mexico) or 1-760-476-3962

Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Prepared By:** Chemical Stewardship  
Telephone: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

#### 1.4. Emergency telephone number

**Emergency Telephone Number:** 1-866-519-4752 or 1-760-476-3962

### 2. Hazard(s) Identification

#### 2.1 Classification in accordance with paragraph (d) of §1910.1200

Carcinogenicity	Category 1A - H350
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#### 2.2. Label Elements

**Hazard Pictograms**



**Signal Word** Danger

**Hazard Statements** H350 - May cause cancer by inhalation

### Precautionary Statements

**Prevention** P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response** P308 + P313 - IF exposed or concerned: Get medical advice/attention

**Storage** P405 - Store locked up

**Disposal** P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

### 2.3 Hazards not otherwise classified

None known

## 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Calcium carbonate	471-34-1	30 - 60%	Not classified
Limestone	1317-65-3	30 - 60%	Not classified
Glass, oxide	65997-17-3	10 - 30%	Not classified
Polymer	Proprietary	1 - 5%	Combustible Dust
Crystalline silica, quartz	14808-60-7	0.1 - 1%	Carc. 1A (H350) STOT RE 1 (H372)

The specific chemical identity of the composition has been withheld as proprietary.

The exact percentage (concentration) of the composition has been withheld as proprietary.

## 4. First-Aid Measures

### 4.1. Description of first aid measures

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

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

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

**Ingestion** Rinse mouth with water many times. Get medical attention if symptoms occur

### 4.2 Most important symptoms/effects, acute and delayed

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

**4.3. Indication of any immediate medical attention and special treatment needed**

Notes to Physician

Treat symptomatically.

**5. Fire-fighting measures****5.1. Extinguishing media****Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**5.2 Specific hazards arising from the substance or mixture****Special Exposure Hazards**

Decomposition in fire may produce harmful gases.

**5.3 Special protective equipment and precautions for fire-fighters****Special Protective Equipment for Fire-Fighters**

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

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Use only competent persons for cleanup. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Slippery when wet. See Section 8 for additional information

**6.2. Environmental precautions**

None known.

**6.3. Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

**7. Handling and storage****7.1. Precautions for Safe Handling****Handling Precautions**

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. Avoid contact with eyes, skin, or clothing.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from acids. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container. Product has a shelf life of 60 months.

**8. Exposure Controls/Personal Protection****8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Calcium carbonate	471-34-1	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

Limestone	1317-65-3	15 mg/M3	10 mg/M3
Glass, oxide	65997-17-3	15 mg/m <sup>3</sup>	TWA: 1 fiber/cm <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Polymer	Proprietary	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Crystalline silica, quartz	14808-60-7	TWA: 10 mg/m <sup>3</sup> %SiO <sub>2</sub> + 2	TWA: 0.025 mg/m <sup>3</sup>

**8.2 Appropriate engineering controls**

**Engineering Controls** Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**8.3 Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection** Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

**Skin Protection** Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** Eyewash fountains and safety showers must be easily accessible.

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Physical State:** Granules fibers      **Color:** White to gray  
**Odor:** Odorless      **Odor** No information available  
**Threshold:**

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	No data available
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
upper flammability limit	No data available
lower flammability limit	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	2.4 - 2.6
<b>Water Solubility</b>	Insoluble
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

VOC Content (%) No data available

**10. Stability and Reactivity**

**10.1. Reactivity**  
Not expected to be reactive.

**10.2. Chemical Stability**  
Stable

**10.3. Possibility of Hazardous Reactions**  
Will Not Occur

**10.4. Conditions to Avoid**  
None anticipated

**10.5. Incompatible Materials**  
Strong acids. Ammonium salts. Prolonged contact with aluminum.

**10.6. Hazardous Decomposition Products**  
Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C). Carbon monoxide and carbon dioxide.

**11. Toxicological Information**

**11.1 Information on likely routes of exposure**  
**Principle Route of Exposure** Eye or skin contact, inhalation. Ingestion.

**11.2 Symptoms related to the physical, chemical and toxicological characteristics**

**Acute Toxicity**

**Inhalation** 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).  
  
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).

**Eye Contact** May cause mechanical irritation to eye.  
**Skin Contact** May cause mechanical skin irritation.  
**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**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.

### 11.3 Toxicity data

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium carbonate	471-34-1	6450 mg/kg (Rat) > 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 3 mg/L (Rat) 4h
Limestone	1317-65-3	No data available	No data available	No data available
Glass, oxide	65997-17-3	No data available	No data available	No data available
Polymer	Proprietary	No data available	Not a dermal irritant	No data available
Crystalline silica, quartz	14808-60-7	>15,000 mg/kg (Human)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Calcium carbonate	471-34-1	Non-irritating to the skin (Rabbit)
Glass, oxide	65997-17-3	Not irritating to skin in rabbits. (similar substances)
Polymer		Non-irritating to the skin
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Eye damage/irritation
Calcium carbonate	471-34-1	Non-irritating to the eye (Rabbit)
Glass, oxide	65997-17-3	Not expected to be an eye irritant.
Polymer		Non-irritating to the eye
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Calcium carbonate	471-34-1	Did not cause sensitization on laboratory animals (mouse)
Glass, oxide	65997-17-3	Not regarded as a sensitizer.
Polymer		None known
Crystalline silica, quartz	14808-60-7	No information available.

Substances	CAS Number	Respiratory Sensitization
Calcium carbonate	471-34-1	No information available
Glass, oxide	65997-17-3	No information available
Polymer		None known
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Calcium carbonate	471-34-1	In vitro tests did not show mutagenic effects
Glass, oxide	65997-17-3	Not regarded as mutagenic.
Polymer		Not regarded as mutagenic.
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Calcium carbonate	471-34-1	No information available.
Glass, oxide	65997-17-3	Not regarded as carcinogenic.
Polymer		Did not show carcinogenic effects in animal experiments
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.

Substances	CAS Number	Reproductive toxicity
Calcium carbonate	471-34-1	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Glass, oxide	65997-17-3	Not regarded as a reproductive and developmental toxicant.
Polymer		Not a confirmed teratogen or embryotoxin.
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure
Calcium carbonate	471-34-1	No significant toxicity observed in animal studies at concentration requiring classification.
Glass, oxide	65997-17-3	No significant toxicity observed in animal studies at concentration requiring classification.
Polymer		No significant toxicity observed in animal studies at concentration requiring classification.
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Calcium carbonate	471-34-1	No significant toxicity observed in animal studies at concentration requiring classification.
Glass, oxide	65997-17-3	No significant toxicity observed in animal studies at concentration requiring classification.
Polymer		None known
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Calcium carbonate	471-34-1	Not applicable
Glass, oxide	65997-17-3	Not applicable
Polymer		No information available
Crystalline silica, quartz	14808-60-7	Not applicable

## 12. Ecological Information

### 12.1. Toxicity

#### Ecotoxicity Effects

Product is not classified as hazardous to the environment.

#### Product Ecotoxicity Data

No data available

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Calcium carbonate	471-34-1	EC50(72h): > 14 mg/L (growth rate) (Desmodesmus subspicatus)	LC50(96h): > 100 mg/L (saturated solution) (Oncorhynchus mykiss)	EC50(3h): > 1000 mg/L (Activated sludge)	EC50(48h): > 100 mg/L (saturated solution) (Daphnia magna)
Limestone	1317-65-3	No information available	No information available	No information available	TLM96: > 1,000,000 ppm (Mysidopsis bahia)
Glass, oxide	65997-17-3	EC50 (96h) > 1000 mg/L (Pseudokirchnerella subcapitata)	EC50 (96h) > 1000 mg/L (Danio rerio)	No information available	TLM96 > 1,000,000 ppm (Mysidopsis bahia) EC50 (96h) > 1000 mg/L (Daphnia magna)
Polymer	Proprietary	EC50 (72h) > 1000 mg/L (Skeletonema costatum)	LC50 96h > 1000 mg/L (Skeletonema costatum)	No information available	LC50 (48h) > 2000 mg/L (Acartia tonsa) LC50 (10d) > 10000 mg/kg (Corophium volutator)
Crystalline silica, quartz	14808-60-7	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Calcium carbonate	471-34-1	The methods for determining biodegradability are not applicable to inorganic substances.
Limestone	1317-65-3	The methods for determining biodegradability are not applicable to inorganic substances.
Glass, oxide	65997-17-3	No information available

Polymer	Proprietary	No information available
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Calcium carbonate	471-34-1	No information available
Limestone	1317-65-3	No information available
Glass, oxide	65997-17-3	No information available
Polymer	Proprietary	No information available
Crystalline silica, quartz	14808-60-7	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Calcium carbonate	471-34-1	No information available
Limestone	1317-65-3	No information available
Glass, oxide	65997-17-3	No information available
Polymer	Proprietary	No information available
Crystalline silica, quartz	14808-60-7	No information available

**12.5 Other adverse effects**

No information available

**13. Disposal Considerations**

**13.1. Waste treatment methods**

**Disposal Method** Disposal should be made in accordance with federal, state, and local regulations.  
**Contaminated Packaging** Dispose of container according to national or local regulations.

**14. Transport Information**

**US DOT**

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**US DOT Bulk**

**DOT (Bulk)** Not applicable

**Canadian TDG**

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**IMDG/IMO**

**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**IATA/ICAO**



**UN Number:** Not restricted  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable  
**Special Precautions for User:** None

**15. Regulatory Information**

**US Regulations**

**US TSCA Inventory** All components listed on inventory or are exempt.

**TSCA Significant New Use Rules - S5A2**

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Calcium carbonate	471-34-1	Not applicable
Limestone	1317-65-3	Not applicable
Glass, oxide	65997-17-3	Not applicable
Polymer	Proprietary	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

**EPA SARA Title III Extremely Hazardous Substances**

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Calcium carbonate	471-34-1	Not applicable
Limestone	1317-65-3	Not applicable
Glass, oxide	65997-17-3	Not applicable
Polymer	Proprietary	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

**EPA SARA (311,312) Hazard Class**

Chronic Health Hazard

**EPA SARA (313) Chemicals**

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Calcium carbonate	471-34-1	Not applicable	Not applicable
Limestone	1317-65-3	Not applicable	Not applicable
Glass, oxide	65997-17-3	Not applicable	Not applicable
Polymer	Proprietary	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	Not applicable

**EPA CERCLA/Superfund Reportable Spill Quantity**

Substances	CAS Number	CERCLA RQ
Calcium carbonate	471-34-1	Not applicable
Limestone	1317-65-3	Not applicable
Glass, oxide	65997-17-3	Not applicable
Polymer	Proprietary	Not applicable
Crystalline silica, quartz	14808-60-7	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.

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<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>NFPA Ratings:</b>	Health 1, Flammability 0, Reactivity 0
<b>HMS Ratings:</b>	Health 1*, Flammability 0, Physical Hazard 0 , PPE: E

## Canadian Regulations

**Canadian DSL Inventory** All components listed on inventory or are exempt.

## 16. Other information

### Preparation Information

**Prepared By** Chemical Stewardship  
Telephone: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

**Revision Date:** 04-Jan-2016

**Reason for Revision** Initial Release

### **Additional information**

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

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

### **Key or legend to abbreviations and acronyms**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
ErC50 – Effective Concentration growth rate 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NIOSH – National Institute for Occupational Safety and Health  
NTP – National Toxicology Program  
OEL – Occupational Exposure Limit  
PEL – Permissible Exposure Limit  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
UN – United Nations  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

### **Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

### **Disclaimer Statement**

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**End of Safety Data Sheet**