

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### BAROID® GRANULAR 20 MESH BENTONITE

Revision Date: 20-Dec-2012

Revision Number: 11

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

##### Product Identifier

Product Name BAROID® GRANULAR 20 MESH BENTONITE

##### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Weight Additive  
Uses Advised Against No information available

##### Details of the supplier of the safety data sheet

Halliburton Energy Services  
Halliburton House, Howemoss Place  
Kirkhill Industrial Estate  
Dyce  
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United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

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

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E-Mail address: [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

##### Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone §45 - (EC)1272/2008	
Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

#### 2. HAZARDS IDENTIFICATION

##### Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Carcinogenicity	Category 1A - (H350)
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - (H372)

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

## 2. HAZARDS IDENTIFICATION

**Classification** Crystalline silica is not classified as a carcinogen in EU Council Directives 67/548/EEC and 88/379/EEC.

**Risk Phrases** None

### Label Elements

#### Hazard Pictograms



**Signal Word** Danger

#### Hazard Statements

H350i - May cause cancer by inhalation

H372 - Causes damage to organs through prolonged or repeated exposure

#### Contains

##### Substances

Crystalline silica, cristobalite

Crystalline silica, tridymite

Bentonite

Crystalline silica, quartz

##### CAS Number

14464-46-1

15468-32-3

1302-78-9

14808-60-7

#### Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use

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

#### Other Hazards

None known

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Crystalline silica, cristobalite	238-455-4	14464-46-1	0 - 1%	Not applicable	Carc. 1A (H350i) STOT RE 1 (H372)	No data available
Crystalline silica, tridymite	239-487-1	15468-32-3	0 - 1%	Not applicable	Carc. 1A (H350i) STOT RE 1 (H372)	No data available
Bentonite	215-108-5	1302-78-9	60 - 100%	Not applicable	Not applicable	No data available
Crystalline silica, quartz	238-878-4	14808-60-7	< 3	Not applicable	Carc. 1A (H350i) STOT RE 1 (H372)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

#### Description of first aid measures

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<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<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>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

**Most Important symptoms and effects, both acute and delayed**

May cause eye irritation.

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

**Notes to Physician** Treat symptomatically

#### 5. FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

All standard fire fighting media

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

None known.

**Special hazards arising from the substance of mixture**

**Special Exposure Hazards**

Not applicable.

**Advice for firefighters**

**Special Protective Equipment for Fire-Fighters**

Not applicable.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

See Section 12 for additional information

**Environmental precautions**

None known.

**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.

**Reference to other sections**

See Section 12 for additional information.

#### 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

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.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**Conditions for safe storage, including any incompatibilities**

Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

**Specific End Use(s)**

**Exposure Scenario**

No information available

**Other Guidelines**

No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Crystalline silica, cristobalite	Not applicable	0.1 mg/m <sup>3</sup>	0,075 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	0,15 mg/m <sup>3</sup>
Crystalline silica, tridymite	Not applicable	0.1 mg/m <sup>3</sup>	0,075 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	Not applicable
Bentonite	Not applicable	10 mg/m <sup>3</sup>	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	Not applicable	0.1 mg/m <sup>3</sup>	0,075 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	0,15 mg/m <sup>3</sup>

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Crystalline silica, cristobalite	Not applicable	2 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	Not applicable
Crystalline silica, tridymite	Not applicable	2 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	Not applicable
Bentonite	Not applicable	Not applicable	Not applicable	6.0 mg/m <sup>3</sup>	Not applicable
Crystalline silica, quartz	Not applicable	2 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Not applicable	Not applicable

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**Exposure controls**

**Engineering Controls**

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

**Personal protective equipment**

**Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**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**

None known.

**Environmental Exposure Controls**

No information available

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical State:** Solid

**Color:** Various

**Odor:** Odorless

**Odor Threshold:** No information available

Property  
Remarks/ Method

Values

<b>pH:</b>	9.9
<b>Melting Point/Range</b>	No data available
<b>Freezing Point/Range (C):</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	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>	2.65
<b>Water Solubility</b>	Insoluble in water
<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

Other information

## 9. PHYSICAL AND CHEMICAL PROPERTIES

VOC Content (%)

No data available

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not applicable

**Chemical Stability**

Stable

**Possibility of Hazardous Reactions**

Will Not Occur

**Conditions to Avoid**

None anticipated

**Incompatible Materials**

Hydrofluoric acid.

**Hazardous Decomposition Products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. TOXICOLOGICAL INFORMATION

**Information on Toxicological Effects****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**  
**Skin Contact**  
**Ingestion**

May cause eye irritation.  
 May cause mechanical skin irritation.  
 None known

**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. TOXICOLOGICAL INFORMATION

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, cristobalite	No data available	No data available	No data available
Crystalline silica, tridymite	No data available	No data available	No data available
Bentonite	No data available	No data available	No data available
Crystalline silica, quartz	No data available	No data available	No data available

## 12. ECOLOGICAL INFORMATION

### Toxicity Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Crystalline silica, cristobalite	No information available	No information available	No information available	No information available
Crystalline silica, tridymite	No information available	No information available	No information available	No information available
Bentonite	No information available	TLM96: 10000 ppm (Oncorhynchus mykiss)	No information available	No information available
Crystalline silica, quartz	No information available	No information available	No information available	No information available

### Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

### Bioaccumulative potential

No information available

### Mobility in soil

No information available

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal Method

Bury in a licensed landfill according to federal, state, and local regulations.

#### Contaminated Packaging

Follow all applicable national or local regulations.

## 14. TRANSPORT INFORMATION

### IMDG/IMO

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

### RID

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**14. TRANSPORT INFORMATION****ADR**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

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

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

**EINECS Inventory** This product, and all its components, complies with EINECS  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian DSL Inventory** All components listed on inventory or are exempt.

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering Classes (WGK)** WGK 0: Generally not water endangering.

**Chemical Safety Assessment**

No information available

**16. OTHER INFORMATION****Full text of R-phrases referred to under Sections 2 and 3**

None

**Key literature references and sources for data**

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

**Revision Date:** 20-Dec-2012  
**Revision Note** Not applicable

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer Statement**

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**End of Safety Data Sheet**