

Bentonite Plug 3/8"-3/4"

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 04/16/2016 Date of issue: 02/16/2015

Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Bentonite Plug 3/8"-3/4"

Synonyms: Chip Bentonite

Intended Use of the Product

Well Abandonment

Name, Address, and Telephone of the Responsible Party

Company

Black Hills Bentonite LLC

PO Box 9

Mills, WY 82644

307-265-3740

blkhlsbent@aol.com

Emergency Telephone Number

Emergency Number : 307-247-8188

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Skin Irrit. 2 H315

Eye Dam. 1 H318

Carc. 1A H350

STOT RE 1 H372

Full text of H-phrases: see section 16

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H350 - May cause cancer.

Precautionary Statements (GHS-US)

H372 - Causes damage to organs through prolonged or repeated exposure.
: P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, protective clothing, and eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for 3-10 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

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Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If involved in a fire or other decomposition occurs: corrosive, toxic, and acrid vapors may be released.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

| Name | Product Identifier | % (w/w) | Classification (GHS-US) |
|--|---------------------|--------------------------|--|
| Silica, amorphous | (CAS No) 7631-86-9 | 38.4 - 66 | Not classified |
| Water | (CAS No) 7732-18-5 | 8 - 20 | Not classified |
| Aluminium oxide (Al ₂ O ₃), hydrate | (CAS No) 1333-84-2 | 10.56 - 19 | Not classified |
| Quartz | (CAS No) 14808-60-7 | 1 - 5 | Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372 |
| Iron oxides | (CAS No) 1332-37-2 | 1.5 - 4.5 | Not classified |
| Sodium oxide (Na ₂ O) | (CAS No) 1313-59-3 | 0.9 - 1, 1 - 3.5 | Skin Corr. 1B, H314 Eye Dam. 1, H318 |
| Calcium oxide | (CAS No) 1305-78-8 | 0.3 - 1, 1 - 2.5 | Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 |
| Magnesium oxide (MgO) | (CAS No) 1309-48-4 | 0.48 - 2 | Not classified |
| Silica, cristobalite | (CAS No) 14464-46-1 | 0.1 - 1 | Carc. 1A, H350 STOT RE 1, H372 |
| Tridymite | (CAS No) 15468-32-3 | 0.1 - 1 | Carc. 1A, H350 STOT RE 1, H372 |
| Potassium oxide | (CAS No) 12136-45-7 | 0.12 - 0.7 | Skin Corr. 1C, H314 Eye Dam. 1, H318 |
| Titanium dioxide | (CAS No) 13463-67-7 | 0.06 - 0.1, 0.1 - 0.2 | Carc. 2, H351 |

Full text of H-phrases: see section 16

More than one of the ranges of concentration prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Flush with plenty of water for at least 3-10 minutes. Seek medical advice if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 3-10 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

Ingestion: Do not induce vomiting. Rinse mouth. Seek medical attention if any problems arise.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye damage. Causes skin irritation. May cause cancer. Repeated or prolonged inhalation may damage lungs.

Inhalation: May cause respiratory irritation. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

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Skin Contact: Causes skin irritation. Symptoms may include redness, pain, swelling, itching, burning, dryness, and dermatitis.

Eye Contact: Causes serious eye damage. Symptoms may include redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: May cause cancer. May cause damage to organs through prolonged or repeated exposure. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam. Dry chemical. Carbon dioxide. Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not expected to be explosive.

Reactivity: Reacts with water. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: May release corrosive vapors. May liberate toxic gases.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing dust.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Use safe, appropriate measures.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal.

Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures, and incompatible materials.

Incompatible Materials: Strong acids. Strong oxidizers. Water.

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Specific End Use(s)

Well Abandonment

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government

| Silica, amorphous (7631-86-9) | | |
|--|-------------------------------------|---|
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 6 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 20 mppcf (80mg/m ³ /%SiO ₂) |
| Nunavut | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable mass) 5 mg/m ³ (total mass) 0.05 mg/m ³ (regulated under Silica flour-respirable mass) 0.15 mg/m ³ (regulated under Silica flour, total mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable mass) 5 mg/m ³ (total mass) 0.05 mg/m ³ (regulated under Silica flour-respirable mass) 0.15 mg/m ³ (total mass, regulated under Silica flour) |
| Yukon | OEL TWA (mg/m ³) | 300 particle/mL (as measured by Konimeter instrumentation) 20 mppcf (as measured by Impinger instrumentation) 2 mg/m ³ (respirable mass) |
| Iron oxides (1332-37-2) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 10 mg/m ³ Iron Oxide fume |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) |
| Magnesium oxide (MgO) (1309-48-4) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (fume, total particulate) |
| USA IDLH | US IDLH (mg/m ³) | 750 mg/m ³ (fume) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| British Columbia | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable dust and fume) |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (fume, inhalable) 3 mg/m ³ (respirable dust and fume) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (inhalable fraction) |

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| | | |
|--------------------------------------|--------------------------------------|---|
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Calcium oxide (1305-78-8) | | |
| Mexico | OEL TWA (mg/m ³) | 2 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 2 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 25 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 2 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 4 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 4 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Québec | VEMP (mg/m ³) | 2 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 4 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 4 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Titanium dioxide (13463-67-7) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Mexico | OEL STEL (mg/m ³) | 20 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) |
| USA IDLH | US IDLH (mg/m ³) | 5000 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) 10 mg/m ³ (total mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) 10 mg/m ³ (total mass) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ |

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| | | |
|--|--------------------------------------|---|
| Yukon | OEL TWA (mg/m ³) | 30 mppcf 10 mg/m ³ |
| Silica, cristobalite (14464-46-1) | | |
| Mexico | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH chemical category | Suspected Human Carcinogen |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (respirable dust) |
| USA IDLH | US IDLH (mg/m ³) | 25 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable particulate) |
| British Columbia | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Nunavut | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable mass) 0.15 mg/m ³ (total mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable mass) 0.15 mg/m ³ (total mass) |
| Ontario | OEL TWA (mg/m ³) | 0.05 mg/m ³ (designated substances regulation-respirable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 0.05 mg/m ³ (respirable dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| Yukon | OEL TWA (mg/m ³) | 150 particle/mL |
| Tridymite (15468-32-3) | | |
| Mexico | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (respirable dust) |
| USA IDLH | US IDLH (mg/m ³) | 25 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable particulate) |
| New Brunswick | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| Nunavut | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable mass) 0.15 mg/m ³ (total mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable mass) 0.15 mg/m ³ (total mass) |
| Québec | VEMP (mg/m ³) | 0.05 mg/m ³ (respirable dust) |
| Yukon | OEL TWA (mg/m ³) | 150 particle/mL |
| Quartz (14808-60-7) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH chemical category | A2 - Suspected Human Carcinogen |
| USA OSHA | OSHA PEL (STEL) (mg/m ³) | 250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2 |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (respirable dust) |
| USA IDLH | US IDLH (mg/m ³) | 50 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable particulate) |
| British Columbia | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ (respirable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ (respirable mass) 0.3 mg/m ³ (total mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ (respirable mass) |

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| | | 0.3 mg/m ³ (total mass) |
| Ontario | OEL TWA (mg/m ³) | 0.10 mg/m ³ (designated substances regulation-respirable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.025 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 0.1 mg/m ³ (respirable dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable fraction) |
| Yukon | OEL TWA (mg/m ³) | 300 particle/mL |

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Suitable materials with adequate protection.

Hand Protection: Wear protective gloves.

Eye Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH-approved respirator whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Do not allow the product to be released into rivers, streams, or local sewer systems.

Consumer Exposure Controls: Do not eat, drink, or smoke during use

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

| | |
|---|--|
| Physical State | : Solid |
| Appearance | : Grey Powder |
| Odor | : Earthy |
| Odor Threshold | : Not available |
| pH | : 9 - 11 |
| Evaporation Rate | : Not available |
| Melting Point | : Not available |
| Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not available |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |
| Relative Density | : Not available |
| Specific Gravity | : 2.65 |
| Solubility | : Water: Insoluble |
| Partition Coefficient: N-Octanol/Water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge |

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SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts with water. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.

Incompatible Materials: Strong acids. Strong oxidizers. Water.

Hazardous Decomposition Products: The decomposition products are corrosive and hazardous to health.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes skin irritation

pH: 9 - 11

Serious Eye Damage/Irritation: Causes serious eye damage

pH: 9 - 11

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: May cause cancer

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause respiratory irritation. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss

Symptoms/Injuries After Skin Contact: Causes skin irritation. Symptoms may include redness, pain, swelling, itching, burning, dryness, and dermatitis

Symptoms/Injuries After Eye Contact: Causes serious eye damage. Symptoms may include redness, pain, swelling, itching, burning, tearing, and blurred vision

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects

Chronic Symptoms: May cause cancer. May cause damage to organs through prolonged or repeated exposure. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|--------------------------------------|---------------------------------|
| Silica, amorphous (7631-86-9) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rabbit | > 2000 mg/kg |
| LC50 Inhalation Rat | > 2.2 mg/l (Exposure time: 1 h) |
| Calcium oxide (1305-78-8) | |
| LD50 Oral Rat | > 2000 mg/kg |
| LD50 Dermal Rabbit | > 2500 mg/kg |
| Titanium dioxide (13463-67-7) | |
| LD50 Oral Rat | > 10000 mg/kg |
| Quartz (14808-60-7) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rat | > 5000 mg/kg |

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| | |
| Silica, amorphous (7631-86-9) | |
| IARC Group | 3 |
| Titanium dioxide (13463-67-7) | |
| IARC Group | 2B |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| Silica, cristobalite (14464-46-1) | |
| IARC Group | 1 |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| Tridymite (15468-32-3) | |
| IARC Group | 1 |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| Quartz (14808-60-7) | |
| IARC Group | 1 |
| National Toxicology Program (NTP) Status | Known Human Carcinogens. |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |

SECTION 12: ECOLOGICAL INFORMATION

Toxicity No additional information available

| | |
|--------------------------------------|---|
| Silica, amorphous (7631-86-9) | |
| LC50 Fish 1 | 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| EC50 Daphnia 1 | 7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia) |
| Calcium oxide (1305-78-8) | |
| LC50 Fish 1 | 1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static]) |
| | |
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| | |

Persistence and Degradability Not available

Bioaccumulative Potential

| | |
|--------------------------------------|-----------------------------|
| Silica, amorphous (7631-86-9) | |
| BCF Fish 1 | No bioaccumulation expected |
| Calcium oxide (1305-78-8) | |
| BCF Fish 1 | No bioaccumulation |
| Disodium carbonate (497-19-8) | |
| BCF Fish 1 | No bioaccumulation |

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, territorial, provincial, and international regulations.

Ecology – Waste Materials: Avoid release into rivers, streams, or local sewer systems.

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SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT Not regulated for transport

In Accordance with IMDG Not regulated for transport

In Accordance with IATA Not regulated for transport

In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

| | |
|---|--|
| Bentonite Plug 3/8"-3/4" | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Delayed (chronic) health hazard |
| Silica, amorphous (7631-86-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Iron oxides (1332-37-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Magnesium oxide (MgO) (1309-48-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Calcium oxide (1305-78-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
| Potassium oxide (12136-45-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
| Sodium oxide (Na₂O) (1313-59-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
| Titanium dioxide (13463-67-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Water (7732-18-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Silica, cristobalite (14464-46-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Tridymite (15468-32-3) | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Quartz (14808-60-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Delayed (chronic) health hazard |
| | |
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US State Regulations

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| Titanium dioxide (13463-67-7) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |


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| | |
|---|--|
| Quartz (14808-60-7) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Silica, amorphous (7631-86-9) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Magnesium oxide (MgO) (1309-48-4) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Calcium oxide (1305-78-8) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Potassium oxide (12136-45-7) | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| Titanium dioxide (13463-67-7) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Silica, cristobalite (14464-46-1) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Tridymite (15468-32-3) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Quartz (14808-60-7) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |

Canadian Regulations

| | |
|--|---|
| Bentonite Plug 3/8"-3/4" | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material |
|  | |
| Silica, amorphous (7631-86-9) | |
| Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Aluminium oxide (Al2O3), hydrate (1333-84-2) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

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| | |
|--|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Iron oxides (1332-37-2) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Magnesium oxide (MgO) (1309-48-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Calcium oxide (1305-78-8) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class E - Corrosive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Potassium oxide (12136-45-7) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class E - Corrosive Material |
| Sodium oxide (Na₂O) (1313-59-3) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class E - Corrosive Material |
| Titanium dioxide (13463-67-7) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Water (7732-18-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Silica, cristobalite (14464-46-1) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Tridymite (15468-32-3) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Quartz (14808-60-7) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR. | |
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SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 04/16/2016

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Carc. 1A | Carcinogenicity Category 1A |
| Carc. 2 | Carcinogenicity Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Skin Corr. 1B | Skin corrosion/irritation Category 1B |
| Skin Corr. 1C | Skin corrosion/irritation Category 1C |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |
| H351 | Suspected of causing cancer |
| H372 | Causes damage to organs through prolonged or repeated exposure |

Party Responsible for the Preparation of This Document

Black Hills Bentonite LLC
307-265-3740

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2