



WYO-BEN, INC.

SAFETY DATA SHEET

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name	MAX BORE® HDD		
Chemical Family	Mineral		
Application	Drilling Fluids		
Manufacturer	Wyo-Ben, Inc. 1345 Discovery Drive Billings, MT 59102 USA Telephone: 800.548.7055 Facsimile: 406.656.0748	Supplier	Blick Ltd 21 Kahu Crescent Te Rapa, Hamilton 3200, New Zealand +64 7 849 2366
Emergency Phone Number	CHEMTREC® 1.800.424.9300	NZ National Poisons Centre 0800 POISON 0800 764 766	

SECTION 2 — HAZARD IDENTIFICATION

Hazard Classification	Carcinogenicity (Category 1A) Specific Target Organ Toxicity (Repeated Exposure) (Category 1)
Signal Word	Danger
Hazard Statements	May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Hazard Symbol



Precautionary Statements

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.
Response	If exposed or concerned: Get medical advice/attention. Get medical attention/advice if you feel unwell.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards Not Otherwise Classified

May cause eye and respiratory irritation.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS Number	Percent
Crystalline Silica, quartz	14808-60-7	≤6%

SECTION 4 — FIRST AID MEASURES

<u>Inhalation</u>	If inhaled, remove to a dust free area. Get medical attention if respiratory irritation develops or if breathing becomes difficult. Inhalation may aggravate existing respiratory illness.
<u>Eyes</u>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<u>Skin</u>	Wash with soap and water. Seek medical attention if irritation persists.
<u>Ingestion</u>	Do Not induce vomiting. First aid measures not normally required.
<u>Notes to Physician</u>	Treat symptomatically

SECTION 5 — FIRE FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	Product is non-combustible. All standard firefighting media may be used.
<u>Unsuitable Extinguishing Media</u>	None
<u>Special Exposure Hazards</u>	None known. Product is not combustible.
<u>Special Protective Equipment and Precautions for Firefighters</u>	None for product. Wear self-contained breathing apparatus (SCBA) and full protective gear. Caution: slippery when wet.
<u>NFPA Ratings</u>	Health 1, Flammability 0, Reactivity 0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

<u>Personal Precautionary Measures</u>	Use appropriate protective equipment. Avoid creating and breathing dust. Prevent further leakage or spillage if safe to do so.
<u>Environmental Precautionary Measures</u>	No special environmental precautions required.
<u>Procedure for Cleaning/Absorption</u>	Prevent further leakage or spillage if safe to do so. Avoid generating dust. Collect using appropriate dustless method. Dispose in landfill according to local, state and federal regulations.

SECTION 7 — HANDLING AND STORAGE

<u>Handling Precautions</u>	This product contains quartz which may become airborne. Avoid breathing dust. Avoid creating dusty conditions. Promptly clean up spills to avoid breathing airborne dust. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH/MSHA European Standard En 149, or equivalent certified for silica bearing dust, respirator when using this product. Material is slippery when wet.
<u>Storage Information</u>	Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Substance	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA*
Crystalline Silica, quartz	14808-60-7	0.025 mg/m ³	$\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$

* Quartz from Bentonite was specifically excluded from the new, lower PEL in the 2016 OSHA Respirable Crystalline Silica rulemaking. More restrictive exposure limits may be enforced by some states, agencies, or other authorities.

<u>Engineering Controls</u>	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.
<u>Personal Protective Equipment</u>	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.
<u>Respiratory Protection</u>	Not normally needed. If significant exposures exceeding occupational exposure limit are possible use NIOSH/MSHA respirator approved for silica bearing dust.
<u>Hand Protection</u>	Standard work gloves.
<u>Skin Protection</u>	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.
<u>Eye Protection</u>	Wear safety glasses or goggles to protect against exposure.
<u>Other Precautions</u>	None known.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

<u>Physical State</u>	Powdered Solid
<u>Color</u>	Light tan to gray as dry powder
<u>Odor</u>	Odorless
<u>pH</u>	8 – 10 (5% aqueous suspension)
<u>Specific Gravity @ 20 C (Water=1)</u>	2.45 – 2.55
<u>Density @ 20 C (lbs/gallon)</u>	Not determined
<u>Bulk Density @ 20 C (lbs/ft³)</u>	49 - 55
<u>Boiling Point/Range (F/C)</u>	Not applicable
<u>Freezing Point/Range (F/C)</u>	Not applicable
<u>Vapor Pressure @ 20 C (mmHg)</u>	Not applicable
<u>Vapor Density (Air=1)</u>	Not applicable
<u>Percent Volatiles</u>	Not applicable
<u>Evaporation Rate (Butyl Acetate=1)</u>	Not applicable
<u>Solubility in Water (g/100ml)</u>	Insoluble, forms colloidal suspension
<u>Solubility in Solvents (g/100ml)</u>	Not applicable
<u>VOCs (lbs/gallon)</u>	Not applicable
<u>Viscosity, Dynamic @ 20 C (centipoise)</u>	20 – 25 (3% aqueous suspension)
<u>Viscosity, Kinematic @ 20 C (centistokes)</u>	Not determined
<u>Partition Coefficient/n-Octanol/Water</u>	Not applicable
<u>Molecular Weight (g/mole)</u>	Not applicable
<u>Flash Point/Range (F/C)</u>	Not applicable
<u>Flash Point Method</u>	Not applicable
<u>Autoignition Temperature (F/C)</u>	Not applicable

Flammability Limits in Air – Lower (%) Not applicable

Flammability Limits in Air – Upper (%) Not applicable

SECTION 10 — STABILITY AND REACTIVITY

Reactivity: Nonreactive

Chemical Stability: Stable

Possibility of Hazardous Reactions: Will not occur.

Conditions to Avoid: None known

Incompatibility (Materials to Avoid): None known

Hazardous Decomposition Products: None

Additional Guidelines: Not applicable

SECTION 11 — TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Inhalation Inhaled crystalline silica in the form of quartz from occupational sources is carcinogenic to humans (IARC, Group 1).

Skin Contact May cause skin irritation due to drying.

Eye Contact May cause mechanical eye irritation.

Ingestion None known

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 respirable quartz-bearing 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, 1997) concludes that there is sufficient evidence in humans for carcinogenicity of inhaled crystalline silica from occupational sources (IARC Group 1), that carcinogenicity was not detected in all industrial circumstances studied and that carcinogenicity may depend on characteristics of the crystalline silica or on external factors affecting its biological activity. See IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997). The National Toxicology Program (NTP) classifies respirable crystalline silica as “Known to be a human carcinogen” (NTP 9th Report on Carcinogens, 2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

Other Information See “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

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

SECTION 12 — ECOLOGICAL INFORMATION

<u>Mobility (Water/Soil/Air)</u>	Not determined
<u>Persistence/Degradability</u>	Not determined
<u>Bio-accumulation</u>	Not determined
<u>Ecotoxicological Information</u>	
Acute Fish Toxicity	Not determined
Acute Crustaceans Toxicity	Not determined
Acute Algae Toxicity	Not determined
<u>Chemical Fate Information</u>	Not determined
<u>Other Information</u>	Not applicable

SECTION 13 — DISPOSAL CONSIDERATIONS

<u>Disposal Method</u>	If product should become a waste, dispose in a licensed landfill according to federal, state and local regulations.
<u>Contaminated Packaging</u>	Follow all applicable national or local regulations.

SECTION 14 — TRANSPORT INFORMATION

Land Transportation

DOT	Not regulated as dangerous goods
Canadian TDG	Not regulated as dangerous goods
ADR	Not regulated as dangerous goods

Air Transportation

ICAO/IATA	Not regulated as dangerous goods
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Sea Transportation

IMDG	Not regulated as dangerous goods
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Other Transportation Information

Labels	None
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SECTION 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	Chronic Health 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	This product contains crystalline silica (respirable) which is a substance known to the State of California to cause cancer.

International Regulations

Australian Inventory of Chemical Substances (AICS)	All components on inventory
Canadian Domestic Substances List (DSL)	All components on inventory or exempt.
Canadian Non-Domestic Substances List (NDSL)	Not on list
Canadian WHMIS Hazard Class	This product contains crystalline silica (respirable) and is classified as a Class D, Division 2, Subdivision A substance.
Chinese Inventory of Existing Chemical Substances (IECSC)	All components on inventory or exempt.
European Inventory of Existing Commercial Chemical Substances (EINECS)	All components on inventory or exempt.
European List of Notified Chemical Substances (ELINCS)	Not on list.
Japanese inventory of Existing and New Chemical Substances (ENCS)	Not on list
Korean Existing Chemicals List (ECL)	All components on inventory or exempt.
New Zealand Inventory of Chemicals	All components on inventory or exempt.
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	All components on inventory or exempt.
Taiwan Chemical Substance Inventory (TCSI)	All components on inventory or exempt.

SECTION 16 — OTHER INFORMATION

Prepared 04/09/2024
Last Revision 04/09/2024

DISCLAIMER

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances. No warranty or guarantee, expressed or implied, is made by WYO-BEN, INC. as to this information, or as to the safety, toxicity or effect of the use of this product.