



WYO-BEN, INC.

SAFETY DATA SHEET

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: **BIG HORN® IOP200**
Chemical Family: Mineral
Application: Iron Ore Pelletizing
Manufacturer/Supplier: Wyo-Ben, Inc.
1345 Discovery Drive
Billings, MT 59102 USA
Telephone: 800.548.7055
Facsimile: 406.656.0748
Emergency Phone Number: CHEMTREC® 800.424.9300

SECTION 2 — HAZARD IDENTIFICATION

Hazard Symbol: Health Hazard
Signal Word: Warning
Hazard Overview: ACUTE HEALTH HAZARD
May cause eye and respiratory irritation.

CHRONIC HEALTH HAZARD
Breathing crystalline silica can cause lung disease, including silicosis and lung cancer.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	Percent	ACGIH TLV-TWA	OSHA PEL-TWA*
Crystalline Silica, quartz	14808-60-7	1 – 6%	0.025 mg/m ³	$\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$

*More restrictive exposure limits may be enforced by some states, agencies, or other authorities.
Non-hazardous components > 94%

SECTION 4 — FIRST AID MEASURES

Inhalation: 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.
Skin: Wash with soap and water until clear. Seek medical attention if irritation persists.
Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion: No adverse effects.
Notes to Physician: Treat Symptomatically.

SECTION 5 — FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not applicable
Flash Point/Range (C):	Not applicable
Flash Point Method:	Not applicable
Autoignition Temperature (F):	Not applicable
Autoignition Temperature (C):	Not applicable
Flammability Limits in Air – Lower (%):	Not applicable
Flammability Limits in Air – Upper (%):	Not applicable
Fire Extinguishing Media:	All standard firefighting media. (Caution slippery when wet.)
Special Exposure Hazards:	Not applicable
Special Protective Equipment for Firefighters:	Not applicable
NFPA Ratings:	Health 0, Flammability 0, Reactivity 0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures:	Use appropriate protective equipment. Avoid creating and breathing dust.
Environmental Precautionary Measures:	None known.
Procedure for Cleaning/Absorption:	Collect using appropriate dustless method and hold for appropriate disposal.

SECTION 7 — HANDLING AND STORAGE

Handling Precautions:	This product contains quartz which may become airborne. Avoid breathing dust. Avoid creating dusty conditions. 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. Promptly clean up spills to avoid breathing airborne dust.
Storage Information:	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

Engineering Controls:	Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.
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:	Not normally needed. If significant exposures are possible use NIOSH/MSH respirator approved for silica bearing dust.
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.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	Light tan to gray as dry powder
Odor:	Odorless
pH:	8 – 10 (5% aqueous solution)
Specific Gravity @ 20 C (Water=1):	2.45 – 2.55
Density @ 20 C (lbs/gallon):	Not determined
Bulk Density @ 20 C (lbs/ft ³):	49 – 55
Boiling Point/Range (F):	Not applicable
Boiling Point/Range (C):	Not applicable
Freezing Point/Range (F):	Not applicable
Freezing Point/Range (C):	Not applicable
Vapor Pressure @ 20 C (mmHg):	Not applicable
Vapor Density (Air=1):	Not applicable
Percent Volatiles:	Not applicable
Evaporation Rate (Butyl Acetate=1):	Not applicable
Solubility in Water (g/100ml):	Insoluble, forms colloidal suspension
Solubility in Solvents (g/100ml):	Not applicable
VOCs (lbs/gallon):	Not applicable
Viscosity, Dynamic @ 20 C (centipoise):	240
Viscosity, Kinematic @ 20 C (centistrokes):	Not applicable
Partition Coefficient/n-Octanol/Water:	Not applicable
Molecular Weight (g/mole):	Not applicable

SECTION 10 — STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	None anticipated
Incompatibility (Materials to Avoid):	Hydrofluoric Acid
Hazardous Decomposition Products:	None
Additional Guidelines:	Not applicable

SECTION 11 — TOXICOLOGICAL INFORMATION

Principle Route of Exposure:	Eye or skin contact, inhalation.
Inhalation:	Inhaled crystalline silica in the form of quartz from occupational sources is carcinogenic to humans (IARC, Group 1).
Skin Contact:	May cause mechanical skin irritation.
Eye Contact:	May cause 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:	<p>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.</p> <p>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).</p>
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 (on FDA GRAS list; used as a food additive)
Dermal Toxicity:	Not determined (on FDA GRAS list; used in cosmetic preparations)
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity:	Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997).
Genotoxicity:	Not determined
Reproductive/Developmental Toxicity:	Not determined

SECTION 12 — ECOLOGICAL INFORMATION

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

SECTION 13 — DISPOSAL CONSIDERATIONS

Disposal Method:	Bury in a licensed landfill according to federal, state and local regulations.
Contaminated Packaging:	Follow all applicable national or local regulations.

SECTION 14 — TRANSPORT INFORMATION

Land Transportation

DOT – Not Restricted
Canadian TDG – Not Restricted
ADR – Not Restricted

Air Transportation

ICAO/IATA – Not Restricted

Sea Transportation

IMDG – Not Restricted

Other Transportation Information

Labels: None

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	Acute Health Hazard 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.
Canadian Regulations	
Canadian DSL Inventory	All components listed on inventory are exempt.
WHMIS Hazard Class	This product contains crystalline silica (respirable) and is classified as a Class D, Division 2, Subdivision A substance.

SECTION 16 — OTHER INFORMATION

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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.