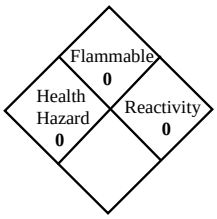
WYO-BEN, INC.

MATERIAL SAFETY DATA SHEET



NFPA FIRE HAZARD
IDENTIFICATION SYSTEM

I. PRODUCT IDENTIFICATION

Trade Name(s): **BENTONITE**

Generic Name(s): Wyoming (Western) Bentonite; Bentonite Clay (CAS No. 1302-78-9)

Chemical Name(s): Sodium Montmorillonite (CAS No. 1318-93-0)

Manufacturer: **WYO-BEN, INC.** Address: P.O. Box 1979 Billings, Montana 59103	Telephone Numbers: Information: (406) 652-6351 EMERGENCY: (406) 652-6351

II. HAZARDOUS INGREDIENTS

Ingredient	CAS NO.	%	Hazard
Crystalline Silica (SiO_2) as Quartz	14808-60-7	See Note	Low concentrations of crystalline silica (SiO_2) in the form of quartz may be present in airborne bentonite dust. See Section VI for discussion of health hazard.

Note: Although the typical quartz content of western bentonite is in the range of 2 to 6% most of the quartz particles are larger than the 10 µ respirable threshold size. The actual respirable quartz concentration in airborne bentonite dust will depend upon bentonite source, fineness of product, moisture content of product, local humidity and wind condition at point of use and other use specific factors.

III. PHYSICAL DATA

Boiling Point (°F): NA	Specific Gravity (H_2O=1): 2.45-2.55
Vapor Pressure (mm. Hg): NA	Melting Point: Approx. 1450°C
Vapor Density (Air = 1): NA	Evaporation Rate (Butyl Acetate = 1): NA
Solubility in Water: Insoluble, forms colloidal suspension.	pH: 8-10 (5% aqueous suspension)
Density (at 20° C): 55-68 lbs./cu.ft. as product.	

Appearance and Odor: Bluegray to green as moist solid, light tan to gray as dry powder. No odor.

IV. FIRE AND EXPLOSION DATA

Flash Point: NA	Flammable Limits: LEL: NA UEL: NA

Special Fire Fighting Procedures: NA

Unusual Fire and Explosion Hazards: None. Product will not support combustion.

Extinguishing Media: None for product. Any media can be used for the packaging. Product becomes slippery when wet.

V. REACTIVITY

Stability: Stable

Hazardous Polymerization: None

Incompatibility: None

Hazardous Decomposition Products: None

NA = Not Applicable ND = Not Determined

Date Prepared: January 4, 2010 Doc #0000-00:

VI. HEALTH HAZARD INFORMATION

Routes of Exposure and Effects:

Skin: Possible drying resulting in dermatitis.

Eyes: Mechanical irritant.

Inhalation: *Acute* (short term) exposure to dust levels exceeding the PEL may cause irritation of respiratory tract resulting in a dry cough. *Chronic* (long term) exposure to airborne bentonite dust containing respirable size (≤ 10 µm) quartz particles, where respirable quartz particle levels are higher than TLV's, may lead to development of silicosis or other respiratory problems. Persistent dry cough and labored breathing upon exertion may be symptomatic.

Ingestion: No adverse effects.

Permissible Exposure Limits: (for air contaminants)	OSHA PEL (8hr. TWA)	ACGIH TLV
Bentonite as "Particulates not otherwise regulated" (formerly nuisance dust)		
Total dust	15 mg/m^3	ND
Respirable dust	5 mg/m^3	ND
Crystalline Silica: Quartz (respirable)	$\frac{10\ mg/m^3}{\%\ Silica + 2}$	0.025 mg/m^3

Carcinogenicity: Bentonite is not listed by ACGIH, IARC, NTP or OSHA. IARC, 1997, concludes that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources (IARC Class 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. NTP classifies respirable crystalline silica as "known to be a human carcinogen" (NTP 9th Report on Carcinogens – 2000). ACGIH classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

Acute Oral LD_{50}: ND	Acute Dermal LD_{50}: ND	Aquatic Toxicology LC_{50}: ND

Emergency and First Aid Procedures:

Skin: Wash with soap and water until clean.

Eyes: Flush with water until irritation ceases.

Inhalation: Move to area free from dust. If symptoms of irritation persist contact physician. Inhalation may aggravate existing respiratory illness.

VII. HANDLING AND USE PRECAUTIONS

Steps to be Taken if Material is Released or Spilled: Avoid breathing dust; wear respirator approved for silica bearing dust. Vacuum up to avoid generating airborne dust. Avoid using water. Product slippery when wetted.

Waste Disposal Methods: Product should be disposed of in accordance with applicable local, state and federal regulations.

Handling and Storage Precautions: Use NIOSH/MSHA respirators approved for silica bearing dust when free silica containing airborne bentonite dust levels exceed PEL/TLV's. Clean up spills promptly to avoid making dust. Storage area floors may become slippery if wetted.

VIII. INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Mechanical, general room ventilation. Use local ventilation to maintain PEL's/TLV's.

Respirator: Use respirators approved by NIOSH/MSHA for silica bearing dust.

Eye Protection: Generally not necessary. Personal preference.

Gloves: Generally not necessary. Personal preference.

Other Protective Clothing or Equipment: None

IX. SPECIAL PRECAUTIONS

Avoid prolonged inhalation of airborne dust.

DEPARTMENT OF TRANSPORTATION HAZARDOUS MATERIAL INFORMATION

Shipping Name: NA (Not Regulated)	Hazard Class: NA
Hazardous Substance: NA	Caution Labeling: NA

Date Prepared: January 4, 2010 Doc #0000-00: