



Black Hills Bentonite, LLC MATERIAL SAFETY AND TRANSPORTATION DATA SHEET

SECTION 1

PRODUCT IDENTIFICATION

MANUFACTURERS NAME

Black Hills Bentonite, a Limited Liability Company

Trade Name: S-5 Natural

TELEPHONE NO.

(307) 265-3740

ADDRESS

P.O. Box 9, Mills, WY 82644

CHEMICAL NAME AND SYNONYMS

Hydrous Silicate of Alumina / Wyoming Sodium Bentonite/Sodium Montmorillonite

CAS No. 1302-78-9

SECTION 2

HAZARDOUS INGREDIENTS

CAS #	Component	Percentage	Exposure Limit
14808-60-7	Crystalline Silica in the form of Quartz	>1%	PEL - See Below TLV - 0.05 mg/m ³ TWA (respirable fraction) MSHA - See Below

OSHA PEL and MSHA Exposure Limit for

Crystalline Silica Quartz:

$$\frac{10\text{mg/m}^3}{\% \text{ Silica} + 2}$$

(Respirable)

National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m³) as determined by a full shift sample up to 10 hour working day, 40 hours per week. The 1974 NIOSH Criteria for a recommended Standard for Occupational Exposure to Crystalline Silica should be consulted for more detailed information.

PEL means OSHA Permissible Exposure Limit.

TLV means American Conference of Governmental Industrial Hygienists (ACGIH)

Threshold Limit Value.

MSHA means Mine Safety and Health Administration Exposure Limit.

TWA means 8 hour time weighted average.

Note: The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11th Circuit Court of Appeals. Federal OSHA is now enforcing these PELs. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities.

SECTION 3 **PHYSICAL DATA**

BOILING POINT (°F) Not Applicable	SPECIFIC GRAVITY (H ₂ O = 1) 2.6
VAPOR PRESSURE (mm Hg) Not Applicable	VAPOR DENSITY (AIR = 1) Not Applicable
EVAPORATION RATE Not Applicable	SOLUBILITY IN WATER Negligible
APPEARANCE AND ODOR Yellow, Blue, Brown granules or powder. Earthy odor.	DENSITY @ 20° C: UNCOMPACTED: 68 lbs/cubic foot

SECTION 4 **HAZARDOUS MATERIALS IDENTIFICATION**

<u>DEGREE OF HAZARD</u>		
<u> </u> 1 Health Hazard	4 = EXTREME	
<u> </u> 0 Flammability	3 = High	
<u> </u> 0 Reactivity	2 = Moderate	
	1 = Slight	
	0 = Insignificant	
SKIN	EYE	INHALATION
Potential irritant.	Potential irritant.	Irritation to lungs, nose, and throat

SECTION 5 **FIRE AND EXPLOSION DATA**

FLASH POINT	FLAMMABLE LIMITS
Not Applicable	Non Flammable

Extinguishing Media: Use extinguishing media appropriate to the surrounding fire.

Special Protective Equipment: None other than those suitable for the surrounding fire conditions.

Unusual Fire/Explosion Hazards: None known.

SECTION 6 **EMERGENCY FIRST AID PROCEDURES**

EYES: SKIN:
Flush with water Wash with soap and water

If inhaled and effects occur, move to fresh air. If breathing is irregular administer oxygen.

SECTION 7 **REACTIVITY DATA**

CONDITIONS CONTRIBUTING TO INSTABILITY: Stable	HAZARDOUS POLYMERIZATION: Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS: None	

SECTION 8 SPILL OR LEAK PROCEDURES

STEPS TO TAKE IF MATERIAL IS RELEASED OR SPILLED

If uncontaminated, sweep up or collect, and reuse product. Product becomes slippery when wet.

WASTE DISPOSAL METHOD

Dispose of in accordance with all Federal, State and Local regulations.

NEUTRALIZING CHEMICALS

Not Applicable

SECTION 9 SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Use NIOSH approved mechanical filter respirator for nontoxic dusts if dust concentration exceeds 10mg/m³

VENTILATION

Sufficient to keep dust levels below the TLV for crystalline silica.

PROTECTIVE GLOVES

General duty work gloves.

EYE PROTECTION

If high dust conditions exist, tight fitting goggles are recommended.

OTHER PROTECTIVE EQUIPMENT

Eyewash

SECTION 10 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store out of the weather. Product becomes slippery when wet. Avoid contact with water in walk areas.

OTHER PRECAUTIONS

PROPER SHIPPING NAME Not Regulated	PLACARDS None	HAZARD CLASS Not Hazardous
REPORTABLE QUANTITY None	HAZARDOUS SUBSTANCE None	ID NUMBER None

SECTION 11 TOXICOLOGICAL INFORMATION

Skin Irritation: Not irritant to skin.

Eyes Irritation: Mild irritation to eyes (according to the modified Kay & Calandra criteria).

Acute Oral Toxicity: By analogy to similar materials, the acute LD50 (rat) is expected to be >5000 mg/kg.

Carcinogenicity: IARC, NTP, OSHA or ACGIH does not list Bentonite as a carcinogen.

Reproductive Toxicity: No data for product. No effects anticipated

Teratogenicity: No data for product. Not effects anticipated.

CARCINOGENICITY - SEE ROUTES OF EXPOSURE AND EFFECTS (BELOW)

Inhalation: Breathing prolonged and excessive amounts of Bentonite dust may not cause noticeable injury or illness even though permanent lung damage may be occurring.

Inhalation of dust may have the following serious chronic health effects:

Pneumoconiosis: Excessive inhalation of respirable dust may cause pneumoconiosis, a respiratory disease, which can result in delayed, progressive, disabling and sometimes fatal lung injury. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with pneumoconiosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1 - carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. 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).

Other Data with Possible Relevance to Human Health:

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 fibrosis of the lungs, skin and other internal organs) and kidney disease.

For further information consult "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.

SECTION 12 **REGULATORY INFORMATION**

SARA requires the submission of annual reports of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS that are re copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are:

Chemical: NONE

CAS #: N/A

Toxic Substances Control Act: The ingredients of this product are on the TSCA inventory.

Quartz is a Canadian WHMIS (Workplace Hazardous Material Information System) Ingredient Disclosure List, Massachusetts Substance List, New Jersey Right to Know Hazardous Substance List, and Pennsylvania Hazardous Substance List.

SECTION 13 **ECOLOGICAL INFORMATION**

No specific adverse effect known.

SECTION 14 **TRANSPORT INFORMATION**

DOT – Proper Shipping Name: Not a DOT/MO Hazardous Material

Road Transport ADR/RID: Not a dangerous substance as defined in the above regulations.

Inland Navigation AND/ADNR: Not a dangerous substance as defined in the above regulations.

Maritime Transport IMDG: Not a dangerous substance as defined in the above regulations.

Air Transport ICAO/IATA: Not a dangerous substance as defined in the above regulations.

SECTION 15 **REGULATORY INFORMATION**

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting: Chronic Health

SARA 313: This Product contains the following chemicals subject to annual release reporting requirements under the SARA Section 313 (40 CFR 372): None

CERLA Section 103 Reportable Quantity: None

California Proposition 65: In 1999, after extensive analysis, the California Office of Health Hazard Assessment determined that there is no adverse health risk associated with the occurrence of crystalline silica in sorbent mineral based pet litter. This determination exempts cat litter from the proposition 65 warning requirements.

Toxic Substances Control Act: All of the components of this product are listed on the EPA TSCA Inventory or are exempt from the notification requirements.

European inventory of Commercial Chemical Substances: All the components of this product are listed on the EINECS Inventory or exempt from the notification requirements. (The EINECS number for Quartz: 231-545-5.)

Canadian Environmental Protection Act: All the components of this product are listed on the Canadian Domestic Substances List or exempt from the notification requirements.

Japan MITI: all the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

Australian Inventory of Chemical Substances: All the components of this product are listed on the AICS Inventory or exempt from the notification requirements.

Canadian WHMIS Classification: This product contains crystalline silica (respirable), classified as a Class D, Division 2, Subdivision A substance.

SECTION 16 **OTHER INFORMATION**

Training: Workers (and your customers or users in case of resale) must be informed of the presence of crystalline silica and the potential hazards. Provide appropriate training in the proper use and handling of the product as required under applicable regulations.

Liability: Such information is the best of Black Hills Bentonite's knowledge and belief accurate and reliable as the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the users' responsibility to satisfy itself as to the suitability and completeness of such information for their particular use.

BLACK HILLS BENTONITE, LLC.

Update: 3/20/2009

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