

Bentonite

Material Safety Data Sheet

SECTION 1 PRODUCT IDENTIFICATION

MANUFACTURERS NAME

Black Hills Bentonite, a Limited Liability Company
Trade Name: Granular Bentonite 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/m³ TWA (respirable fraction)

MSHA - See Below

OSHA PEL and MSHA Exposure Limit for Crystalline Silica Quartz: 10mg/m³

% Silica + 2

(Respirable)

National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changes 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 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. These PELs are now being enforced by Federal OSHA. 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 (H2O = 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

HAZARDOUS MATERIALS IDENTIFICATION

1 Health Hazard

0 Flammability

0 Reactivity DEGREE OF HAZARD

4 = EXTREME

3 = High

2 = Moderate

1 = Slight

0 = Insignificant

SECTION 4 FIRE AND EXPLOSION DATA

FLASH POINT

Not Applicable FLAMMABLE LIMITS

Non Flammable

SECTION 5 HEALTH HAZARD DATA

CARCINOGENICITY - SEE ROUTES OF EXPOSURE AND EFFECTS (BELOW) ACUTE

ORAL LD50 ACUTE DERMAL LD50 AQUATIC TOXICITY (LC50)

ND ND 10,000 mg/l

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.

SKIN

Potential irritant. EYE

Potential irritant. INHALATION

Irritation to lungs, nose, and throat.

EMERGENCY FIRST AID PROCEDURES

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

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

SECTION 6 REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Stable INCOMPATIBILITY

None

HAZARDOUS DECOMPOSITION PRODUCTS

None HAZARDOUS POLYMERIZATION

Will not occur.

SECTION 7 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 8 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 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store out of the weather. Product becomes slippery when wet. Avoid contact 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

LABEL

None Required

SECTION 10 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 copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are:

Chemical: CAS #:

NONE

Toxic Substances Control Act (TSCA)

The ingredients of this product are on the TSCA inventory.

SECTION 11 STATE RIGHT TO KNOW

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.

PREPARED BY: BLACK HILLS BENTONITE, LLC. DATE: FEBRUARY 2001