



# Black Hills Lignite, LLC

## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT IDENTIFICATION

MANUFACTURERS NAME  
Black Hills Lignite, LLC (c/o Black Hills Bentonite, LLC)

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P.O. Box 9, Mills, WY 82644

CHEMICAL NAME AND SYNONYMS  
Lignite, Leonardite CAS No. 129521-66-0

### 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 <sup>3</sup> TWA (respirable fraction) MSHA - See Below

OSHA PEL and MSHA Exposure Limit for Crystalline Silica 10mg/m<sup>3</sup>  
Quartz:

$$\text{(Respirable) } \frac{\% \text{ Silica}}{2} +$$

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/m<sup>3</sup>) 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. Thes 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 (H <sub>2</sub> O = 1) 1.7
VAPOR PRESSURE (mm Hg) Not Applicable	VAPOR DENSITY (AIR = 1) Not Applicable
EVAPORATION RATE	SOLUBILITY IN WATER

Not Applicable	Negligible
APPEARANCE AND ODOR Black Powder	DENSITY @ 20° C: UNCOMPACTED: 52 lbs/cubic foot

**HAZARDOUS MATERIALS IDENTIFICATION**

**DEGREE OF HAZARD**

<u>1</u> Health Hazard	4 = EXTREME
<u>1</u> Flammability	3 = High
<u>0</u> Reactivity	2 = Moderate
	1 = Slight
	0 = Insignificant

**SECTION 4      FIRE AND EXPLOSION DATA**

Autoignition Temperature 302°F Fire Hazard: Moderate When Exposed	Explosion Hazard: Slight when exposed to flame
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**SECTION 5      HEALTH HAZARD DATA**

CARCINOGENICITY - SEE ROUTES OF EXPOSURE AND EFFECTS (BELOW)

ACUTE OREAL	ACUTE DERMAL
LD <sub>50</sub>	LD <sub>50</sub>
ND	ND

**ROUTES OF EXPOSURE AND EFFECTS**

Inhalation: Breathing prolonged and excessive amounts of Leonardite 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.
<b>EMERGENCY FIRST AID PROCEDURES</b>		

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**

Oxidizing materials

**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.

**WASTE DISPOSAL METHOD**

Can be disposed of in approved landfill.

**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/m<sup>3</sup>

**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.

**OTHER PRECAUTIONS**

None

PREPARED BY: BLACK HILLS LIGNITE, LLC.

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