



Safety Data Sheet

Section 1: Identification

Product identifier

Product Name • Lignite Coal

Synonyms • Coal

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Fossil fuel heat source for power generation and coal gasification

Details of the supplier of the safety data sheet

Manufacturer • Dakota Coal Company
1717 E Interstate Ave
Bismarck, ND 58503-0564
United States

Telephone (General) • (701) 557-4455

Emergency telephone number

Manufacturer • (701) 557-4455

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
Combustible Dust

Label elements

OSHA HCS 2012

DANGER



Hazard statements • Causes damage to organs through prolonged or repeated exposure.
May form combustible dust concentrations in air.

Precautionary statements

- Prevention** • Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

- Response** • Get medical advice/attention if you feel unwell.

- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other hazards**OSHA HCS 2012**

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

Classification of the substance or mixture**WHMIS**

- Other Toxic Effects - D2A

Label elements**WHMIS**

- Other Toxic Effects - D2A

Other hazards**WHMIS**

- May form combustible dust concentrations in air.
In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients**Substances**

- Material does not meet the criteria of a substance.

Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Coal	CAS:129521-66-0	100%	NDA	OSHA HCS 2012: Comb. Dust; STOT RE 1 (Lungs)	NDA
Moisture [37% TO 42%]	NDA	37% TO 42%	NDA	OSHA HCS 2012: Not Classified	NDA
Fixed Carbon [20% TO 30%]	NDA	20% TO 30%	NDA	OSHA HCS 2012: Not Classified	NDA
Ash [5% TO 15%]	NDA	5% TO 15%	NDA	OSHA HCS 2012: Not Classified	NDA
Sulfur [0.4% TO 2%]	CAS:7704-34-9	0.4% TO 2%	NDA	OSHA HCS 2012: Flam. Sol. 1; STOT SE 3: Resp. Irrit.; STOT RE 1 (Kidney, Lungs, Liver)	NDA

Section 4: First-Aid Measures

Description of first aid measures

- Inhalation**
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Immediate medical attention after exposure to this material not expected to be necessary. No special treatment indicated related to exposure to this material.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.
- Unsuitable Extinguishing Media**
- None known.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations in confined areas, and in the presence of an ignition source is a potential dust explosion hazard. Spontaneous combustion, or self-heating, may occur when sufficient oxygen is available to sustain the low temperature reaction of coal with oxygen but the heat produced by the coal oxidation is not adequately dissipated by conduction or convection.
- Hazardous Combustion Products**
- Carbon dioxide and possibly carbon monoxide.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.
- Emergency Procedures**
- Contain spill and monitor for excessive dust accumulation. Avoid unnecessary personnel and equipment traffic in the spill area.

Environmental precautions

- No special environmental precautions necessary.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Avoid generating dust. Use clean nonsparking tools to collect material. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Section 7 - Handling and Storage**Precautions for safe handling****Handling**

- Use only with adequate ventilation. Spontaneous combustion may occur under conditions of elevated temperatures and a continuous supply of oxygen. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Avoid contact with heat and ignition sources. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities**Storage**

- Keep container closed. Store in a cool, dry, well-ventilated place.

Section 8 - Exposure Controls/Personal Protection**Control parameters****Exposure Limits/Guidelines**

- No applicable exposure limits available for product or components.

Exposure controls**Engineering Measures/Controls**

- Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment). It is recommended that dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Use only appropriately classified electrical equipment.

Personal Protective Equipment**Respiratory**

- For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- At a minimum, safety glasses should be worn when concentrated airborne dust is present. May need to consider wearing goggles if dust concentration is heavy.

Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Section 9 - Physical and Chemical Properties**Information on Physical and Chemical Properties**

Material Description			
Physical Form	Solid	Appearance/Description	Brownish black to black solid with no odor.
Color	Brownish black to black.	Odor	Odorless
Odor Threshold	No data available		
General Properties			

Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	= 1.28 Water=1	Water Solubility	Negligible < 0.1 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	300 to 500 C(572 to 932 F) depending on conditions
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Heat, sparks, open flame.

Incompatible materials

- Oxidizing agents.

Hazardous decomposition products

- CO, CO₂, Hydrogen, Oxygen, Oxides of Sulfur and Nitrogen.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Sulfur (0.4% TO 2%)	7704- 34-9	Acute Toxicity: Inhalation-Mammal LC50 • 1660 mg/m ³ ; Irritation: Eye-Human • 8 ppm; Multi-dose Toxicity: Inhalation-Rat TCl ₀ • 1.76 mg/m ³ 4 Hour(s) 30 Day(s)-Intermittent; Liver:Hepatitis (hepatocellular necrosis), diffuse; Kidney, Ureter, and Bladder.Changes in tubules (including acute renal failure, acute tubular necrosis)

GHS Properties	Classification
Respiratory sensitization	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available
Acute toxicity	OSHA HCS 2012 • No data available

Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • No data available
Skin sensitization	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available

Route(s) of entry/exposure

- Inhalation, Skin

Medical Conditions Aggravated by Exposure

- Inhaling respirable coal dust may aggravate existing respiratory disease or dysfunctions. Exposure to dust may aggravate existing eye and skin conditions.

Potential Health Effects**Inhalation****Acute (Immediate)**

- Inhalation of dust may cause nose, throat & lung irritation, irreversible obstructive lung disease/coal worker's pneumoconiosis, coughing and shortness of breath.

Chronic (Delayed)

- Prolonged exposure to the dust may cause wheezing, chest tightness, productive cough nasal irritation and symptoms of chronic respiratory disease.

Skin**Acute (Immediate)**

- Irritation caused by mechanical abrasion.

Chronic (Delayed)

- No data available.

Eye**Acute (Immediate)**

- Irritation caused by mechanical abrasion.

Chronic (Delayed)

- No data available.

Ingestion**Acute (Immediate)**

- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)

- No data available

Key to abbreviations

LC = Lethal Concentration

TC = Toxic Concentration

Section 12 - Ecological Information**Toxicity**

- Non-mandatory section - information about this substance not compiled for this reason.

Persistence and degradability

- Non-mandatory section - information about this substance not compiled for this reason.

Bioaccumulative potential

- Non-mandatory section - information about this substance not compiled for this reason.

Mobility in Soil

- Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not compiled for this reason.

Section 13 - Disposal Considerations**Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Section 15 - Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

SARA Hazard Classifications • Chronic, Pressure(Sudden Release of)

Inventory		
Component	CAS	TSCA
Coal	129521-66-0	No
Sulfur	7704-34-9	Yes

United States**Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

- | | | |
|----------|-------------|------------|
| • Coal | 129521-66-0 | Not Listed |
| • Sulfur | 7704-34-9 | Not Listed |

U.S. - OSHA - Specifically Regulated Chemicals

- | | | |
|----------|-------------|------------|
| • Coal | 129521-66-0 | Not Listed |
| • Sulfur | 7704-34-9 | Not Listed |

Environment**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

- | | | |
|----------|-------------|------------|
| • Coal | 129521-66-0 | Not Listed |
| • Sulfur | 7704-34-9 | Not Listed |

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - CERCLA/SARA - Section 313 - Emission Reporting		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - California - Proposition 65 - Developmental Toxicity		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Coal	129521-66-0	Not Listed
• Sulfur	7704-34-9	Not Listed

Section 16 - Other Information

Revision Date

• 07/December/2015

Preparation Date

- 09/February/2009

Disclaimer/Statement of Liability

- The information contained in this Safety Data Sheet (SDS) is believed to be correct since it was obtained from sources we believe are reliable. However, no representation, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications, hazards connected with the use of the material, or the results to be obtained from the use thereof. User assumes all risks and liability of any use, processing or handling of any material, variation in methods, conditions and equipment used to store, handle, or process the material and hazards connected with the use of the material are solely the responsibility of the user and remain at his sole discretion. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user, and the user has the responsibility of provide a safe work place to examine all aspects of its operation and to determine if or where precautions, in addition to those described herein, are required.

Key to abbreviations

NDA = No Data Available
