

# Safety Data Sheet

Material Name: Coal Slag

MSDS ID: M-002



**BLACK DIAMOND**  
ABRASIVE PRODUCTS

## \*\*\*Section 1 - IDENTIFICATION\*\*\*

**Material Name:**

Coal Slag

**Trade Name:**

Black Magnum™, Black Diamond

**Recommended Use:**

Abrasives, Roofing Granules and other aggregate uses.

**Restrictions on Use:**

None known.

**Manufacturer Information**

US Minerals, Inc.  
18635 West Creek Drive  
Tinley Park, IL 60477

Phone: (708) 623-1935  
Fax: 219-864-4675  
Emergency # (800) 803-2803; (800) 424-9300 (ChemTrec)

## \*\*\*Section 2 - HAZARDS IDENTIFICATION\*\*\*

**OSHA (29 CFR 1910.1200) Classification of Coal Slag (CAS # 68476-96-0):**

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement
	Single Target Organ Toxicity (STOT) Repeated Exposure Category 2 (Respiratory System)	Warning	May cause damage to lungs (pulmonary fibrosis) through prolonged or repeated exposure.
Precautionary Statements			
Prevention	Response	Disposal	
Do not breathe dusts.	Get medical advice/attention if you feel unwell.	Dispose of contents in accordance with federal, state/provincial and local regulations	
<b>Hazards not Otherwise Classified:</b> None Known.			
<b>Unknown Acute Toxicity Statement (Mixture):</b> None Known.			

## \*\*\*Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS\*\*\*

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CAS Number	Components of Coal Slag	Percent %
60676-86-0	Amorphous Fused Silicon Dioxide	48-50
1344-28-1	Aluminum oxide	18-22
1309-37-1	Iron oxide	18-22
1305-78-8	Calcium Oxide	5-7
12136-45-7	Potassium Oxide	1-2
13463-67-7	Titanium Oxide	0-1
1309-48-4	Magnesium Oxide	0-1
1313-59-3	Sodium Oxide	0-1
14808-60-7	Crystalline Silica as Quartz	0-0.1
14464-46-1	Crystalline Silica as Cristobalite	0-0.05
7440-41-7	Beryllium	0-0.00005

## \* \* \*Section 4 - FIRST AID MEASURES\* \* \*

### Description of Necessary Measures

#### Inhalation

Remove to fresh air. Get medical attention if you feel unwell.

#### Skin

Product is not a skin sensitizer. Wash skin thoroughly with water and soap. Remove contaminated clothing. Get medical advice/attention if symptoms occur.

#### Eyes:

Immediately flush eyes with water for at least several minutes. Remove contact lenses, if present and easy to do. Do not rub eyes. Continue rinsing. If irritation persists, get medical attention.

#### Ingestion

If a large amount is swallowed, rinse out mouth. Give water to drink. Do not induce vomiting. Get medical attention if symptoms occur.

### Most Important Symptoms/Effects, Acute and Delayed (Chronic)

#### Acute Effects

**Inhalation:** Excessive exposure to high concentrations of dust may cause irritation to the mucous membranes of the upper respiratory tract.

**Eye:** Excessive exposure to high concentrations of dust may cause irritation to the eyes.

**Skin:** Skin contact with dusts may cause irritation or dermatitis.

**Ingestion:** Ingestion of dust may cause nausea and/or vomiting.

#### Chronic Effects

Prolonged and repeated inhalation exposure to excessive concentrations of dusts may cause pulmonary fibrosis.

**Immediate Medical Attention and Special Treatment:** Treat symptomatically.

## \* \* \*Section 5 - FIRE FIGHTING MEASURES\* \* \*

### Suitable (and Unsuitable) Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

### Specific Hazards Arising from the Chemical

Not applicable for solid product.

### Hazardous Combustion Products

None known

### Special Protective Equipment and Precautions for Firefighters

Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure to fumes and/or smoke from the fire. Do not release runoff from fire control methods to sewers or waterways.

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## \*\*\*Section 6 - ACCIDENTAL RELEASE MEASURES\*\*\*

### Personal Precautions, Protective Equipment and Emergency Procedures

For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Fine, dry material should be removed by vacuuming or wet weeping methods to prevent spreading of dust. Avoid use compressed air to air sweep surfaces. Do not release into sewers or waterways.

### Methods and Materials for Containment and Cleaning Up

Collect spilled material in appropriate, labeled container for recovery or disposal in accordance with federal, state/provincial, and local regulations.

## \*\*\*Section 7 - HANDLING AND STORAGE\*\*\*

### Precautions for Safe Handling

Do not breathe dust. Wear protective gloves / protective clothing / eye protection, as applicable. Emergency safety shower and eye wash stations should be present.

### Conditions for Safe Storage, including any Incompatibilities

Store away from incompatibles such as strong acids and bases.

## \*\*\*Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION\*\*\*

### Component Exposure Limits

#### Iron oxide (CAS # 1309-37-1)

ACGIH: 5 mg/m<sup>3</sup> TWA (respirable fraction)

NIOSH: 5 mg/m<sup>3</sup> TWA (as Fe, dust and fume)

OSHA: 10 mg/m<sup>3</sup> TWA (fume); 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

Mexico: 5 mg/m<sup>3</sup> TWA LMPE-PPT  
10 mg/m<sup>3</sup> STEL [LMPE-CT] (as Fe)

#### Amorphous Fused Silicon Dioxide (CAS # 60676-86-0)

NIOSH: 6 mg/m<sup>3</sup> TWA

OSHA: 80 mg/m<sup>3</sup> / % SiO<sub>2</sub> TWA

#### Calcium oxide (CAS # 1305-78-8)

ACGIH: 2 mg/m<sup>3</sup> TWA

NIOSH: 2 mg/m<sup>3</sup> TWA

25 mg/m<sup>3</sup> IDLH

OSHA: 5 mg/m<sup>3</sup> TWA

Mexico: 2 mg/m<sup>3</sup> TWA LMPE-PPT

#### Aluminum oxide (CAS # 1344-28-1)

OSHA: 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

Mexico: 10 mg/m<sup>3</sup> TWA LMPE-PPT

### Appropriate Engineering Controls

Local exhaust ventilation should be used to control the emissions of air contaminants below recommended exposure limits. General dilution ventilation may assist with the reduction of air contaminant concentrations. Emergency eye wash stations and deluge safety showers should be available in the work area.

### Individual Protection Measures:

#### Respiratory Protection:

Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants

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determines the extent of respiratory protection needed.

Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

**Warning!** Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.

## Eyes:

Wear eye protection/face protection. Chemical goggles, face shields or glasses should be worn to prevent eye contact. Contact lenses should not be worn where particulate exposure to this material is likely.

## Skin:

Persons handling this product should wear appropriate clothing to prevent skin contact. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

## \*\*\*Section 9 - PHYSICAL AND CHEMICAL PROPERTIES\*\*\*

Physical State:	Coarse Solid	Appearance:	Black, granular shiny solid
Color:	Black	Physical Form:	Solid
Odor:	No characteristic odor	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not applicable	Flash Point:	Not applicable
Decomposition:	Not available	Evaporation Rate:	Not available
Vapor Density (air = 1):	Not applicable	Upper/Lower Flammability or Explosive Limits	Not applicable
Specific Gravity (water = 1):	Not available	Vapor Pressure:	Not applicable
Log KOW:	Not available	Density:	Not available
Viscosity	Not available	Water Solubility:	Marginal

## \*\*\*Section 10 - STABILITY AND REACTIVITY\*\*\*

### Reactivity

No reactivity hazard is expected.

### Chemical Stability

Coal slag is stable at normal temperature and pressure.

### Possibility of Hazardous Reactions

None Known.

### Conditions to Avoid

Storage with incompatible materials. Flames and ignition sources where dust can accumulate.

### Incompatible Materials

Strong acids or bases

### Hazardous Decomposition Products

Oxides of carbon and metal oxides may be released at elevated temperatures.

## \*\*\*Section 11 - TOXICOLOGICAL INFORMATION\*\*\*

### Acute Toxicity Values:

Coal Slag	Oral LD50 Rat	>2,000 mg/kg
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	Dermal LD50 Rabbit	>2,000 mg/kg
<b>Iron Oxide</b>	Oral LD50 Rat	>10,000 mg/kg
<b>Amorphous Silicon Dioxide</b>	Oral LD50 Rat	>5,000 mg/kg
	Dermal LD50 Rabbit	>2,000 mg/kg
<b>Aluminum Oxide</b>	Oral LD50 Rat	>5,000 mg/kg
<b>Calcium Oxide</b>	Oral LD50 Rat	>2,000 mg/kg

No **Skin (Dermal) Irritation** data has been determined for Coal Slag as a mixture. The following is available for components:

Calcium Oxide and Iron Oxide: Moderately irritating.

No **Eye Irritation** data has been determined for Coal Slag as a mixture or its individual components.

No **Skin (Dermal)/Respiratory Sensitization** data has been determined for Coal Slag as a mixture or its individual components.

No **Aspiration Hazard** data has been determined for Coal Slag as a mixture or its individual components.

No **Germ Cell Mutagenicity** data has been determined for Coal Slag as a mixture or its individual components.

**Carcinogenicity:** Coal Slag **is not** listed as a carcinogen by IARC, NTP, NIOSH, and OSHA. The following information was identified for the components:

Iron Oxide: ACGIH A4 – Not Classifiable as a Human Carcinogen.

Beryllium: NTP and IARC – Known to be a Human Carcinogen.

Crystalline Silica: NTP and IARC – Known to be a Human Carcinogen.

No **Toxic Reproductive** data has been determined for Coal Slag as a mixture or its individual components.

No **Specific Target Organ Toxicity (STOT) following Single Exposure** data has been determined for Coal Slag as a mixture. The following information was identified for the components:

Calcium Oxide: Can cause respiratory tract irritation, skin and eye irritation.

**Specific Target Organ Toxicity (STOT) following Prolonged or Repeated Exposure** data has been determined for Coal Slag as a mixture and for its individual components. The following information was identified for the components:

Coal Slag: Repeated or prolonged inhalation exposure to excessive concentrations of coal slag can cause lung fibrosis.

Iron Oxide: Repeated or prolonged inhalation exposure of excessive concentrations of iron oxide dust can cause a benign lung disease, called Siderosis.

## \*\*\*Section 12 - ECOLOGICAL INFORMATION\*\*\*

### Ecotoxicity (aquatic and terrestrial)

Coal slag is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment

### Persistence and Degradability

No data available for coal slag.

### Bioaccumulative Potential

No data available for coal slag.

### Mobility

No data available for coal slag.

## \*\*\*Section 13 - DISPOSAL CONSIDERATIONS\*\*\*

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## Disposal Methods

Dispose in accordance with all applicable regulations. Observe safe handling procedures.

### \*\*\*Section 14 - TRANSPORT INFORMATION\*\*\*

Coal Slag does not have a Transport Dangerous Goods (TDG) classification.

## U.S. Department of Transportation, DOT (49 CFR 172.101):

**Shipping Name:** Coal Slag is Not Regulated.

## International Maritime Dangerous Goods (IMDG):

**Shipping Name:** Coal Slag is Not Regulated.

### \*\*\*Section 15 - REGULATORY INFORMATION\*\*\*

## Component Analysis

### U.S. Federal Regulations

Coal Slag contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), and TSCA 12(b).

#### Aluminum oxide (1344-28-1)

**SARA 313:** 1.0 % de minimis concentration (fibrous forms)

## SARA 311/312 Hazardous Categories

**Acute Health:** Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

## U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Iron oxide	1309-37-1	Yes	Yes	Yes	Yes	Yes
Amorphous Silicon Dioxide	60676-86-0	Yes	Yes	Yes	Yes	Yes
Calcium oxide	1305-78-8	Yes	Yes	Yes	Yes	Yes
Aluminum oxide	1344-28-1	Yes	Yes	Yes	Yes	Yes
Titanium oxide	13463-67-7	Yes	Yes	No	Yes	Yes
Potassium oxide	12136-45-7	Yes	Yes	No	Yes	Yes
Magnesium oxide	1309-48-4	Yes	Yes	No	Yes	Yes
Sodium oxide	1313-59-3	Yes	Yes	Yes	Yes	Yes

## Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Iron oxide	1309-37-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Amorphous Silicon Dioxide	60676-86-0	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Calcium oxide	1305-78-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum oxide	1344-28-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Titanium oxide	13463-67-7	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Potassium oxide	12136-45-7	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Magnesium oxide	1309-48-4	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Sodium oxide	1313-59-3	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

### \*\*\*Section 16 - OTHER INFORMATION\*\*\*

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Web Sites with information about health effects from occupational exposure to the chemical substances contained in this product and associated engineering controls and personal protective equipment:

OSHA Website: <http://www.osha.gov>

NIOSH Website: <http://www.cdc.gov.niosh>

ACGIH Website: <http://www.acgih.org>

ATSDR Website: <http://www.astdr.cdc.gov/toxprofiles>

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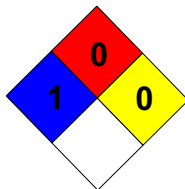
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## NFPA Ratings:

Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe



## Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

## Other Information

**Disclaimer:** Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

## User's Responsibility

The OSHA Hazard Communication Standard 29 CFR 1910.1200 requires that this Safety Data Sheet is available to your employees who handle or may be exposed to this product. Educate and train your employees regarding applicable precautions. Instruct your employees to handle this product properly.

**End of Sheet M-002**