



3306 Peterson Street, Norfolk, Virginia 23509-2415  
Tel: (757) 855-0155 Toll Free: (800) 743-0094 Fax: (757) 857-5631  
Email: www.optaminerals.com

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - PRODUCT IDENTIFICATION AND USE

**PRODUCT NAME:** Black Blast

**MSDS #:** 413-1

**CHEMICAL NAME AND SYNONYMS:** Crushed Coal Slag

**MATERIAL IDENTIFICATION AND USE:** *This material is a shiny, black, granular aggregate for use as a blasting media. This product contains **no** free crystalline silica. **Note:** This MSDS covers many products and individual physical and chemical properties will vary. Consult individual Technical Data Sheet's for specifics.*

**MANUFACTURER  
AND SUPPLIER:**

Virginia Materials Inc.  
3306 Peterson Street  
Norfolk, Virginia  
23509-2415  
**Telephone:** 800-743-0094  
**Emergency:** 905-689-6661, Ext. 222

### SECTION 2 – HAZARDOUS INGREDIENTS

The approximate element composition of this material is as follows:

INGREDIENT	%	CAS #	LD <sub>50</sub>	LC <sub>50</sub>
Silica Amorphous SiO <sub>2</sub>	~46.5	61790-53-2	3160 mg/kg – Oral Rat	N/A
Aluminium Oxide Al <sub>2</sub> O <sub>3</sub>	~22.5	1344-28-1	>5000 mg/kg - Oral Rat	N/A
Iron Oxide Fe <sub>2</sub> O <sub>3</sub>	~19	1309-37-1	>10000 mg/kg - Oral Rat	N/A
Calcium Oxide CaO	~5.5	1305-78-8	500 mg/kg - Oral Rat	N/A
Magnesium Oxide MgO	~1.0	1309-48-4	N/A	N/A
Titanium Dioxide TiO <sub>2</sub>	~1.0	13463-67-7	>10000 mg/kg - Oral Rat	N/A
Silica, crystalline quartz SiO <sub>2</sub>	<0.1	14808-60-7	500 mg/kg – Oral Rat	N/A
Beryllium Be	<0.001	7440-41-7	N/A	N/A
Cadmium Cd	<0.001	7440-43-9	890 mg/kg Oral Mouse	229.9 mg/m <sup>3</sup> / 4 hour(s) Rat

### SECTION 3 – PHYSICAL DATA

<b>PHYSICAL STATE:</b>	Solid
<b>APPEARANCE:</b>	Angular granules. Shiny black colour.
<b>ODOR:</b>	No appreciable odour
<b>ODOR THRESHOLD (ppm):</b>	Not applicable
<b>SPECIFIC GRAVITY:</b>	Not applicable
<b>SOLUBILITY IN WATER (%):</b>	Insoluble
<b>VAPOUR PRESSURE:</b>	Not applicable

<b>VAPOUR DENSITY (AIR = 1):</b>	Not applicable
<b>BOILING POINT:</b>	Not applicable
<b>FREEZING POINT:</b>	Not applicable
<b>MELTING POINT:</b>	Not applicable
<b>pH:</b>	Not available

#### SECTION 4 – FIRE AND EXPLOSION DATA

<b>FLAMABILITY:</b>	No
<b>EXTINGUISHING MEDIA:</b>	Not applicable
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	Not applicable
<b>UNUSUAL FIRE/EXPLOSION HAZARDS:</b>	Not applicable
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Not applicable
<b>AUTO-IGNITION TEMPERATURE:</b>	Not applicable
<b>FLASH POINT:</b>	Not applicable

The product will not burn or explode.

#### SECTION 5 - REACTIVITY DATA

<b>PRODUCT STABILITY:</b>	Stable.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur.
<b>CONDITIONS TO AVOID:</b>	Not applicable.
<b>INCOMPATIBILITY:</b>	Not applicable
<b>HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:</b>	Not applicable.

#### SECTION 6 - TOXICOLOGICAL PROPERTIES

<b>EYE CONTACT:</b>	May cause irritation due to presence of "foreign object".
<b>SKIN CONTACT:</b>	Possible skin irritation.
<b>INHALATION:</b>	<b>EFFECTS OF ACUTE EXPOSURE:</b> Exposure may cause irritation to nose, throat and lungs. <b>EFFECTS OF CHRONIC EXPOSURE:</b> Exposure may cause irritation to nose, throat and lungs.
<b>INGESTION:</b>	May cause irritation.
<b>OCCUPATIONAL EXPOSURE LIMITS:</b>	The following Threshold Limit Values (TLV's) refer to airborne concentrations of substances. The potential hazard of solid particles depends on particle size, which is expressed in three forms:

Inhalable (< 100  $\mu$ m) – when deposited anywhere in the respiratory tract

Thoracic (< 25  $\mu$ m) – when deposited anywhere within the lung airways and the gas-exchange region

Respirable (< 10  $\mu$ m) – when deposited in the gas-exchange region

<b>Substance</b>	<b>C.A.S. No.</b>	<b>PEL</b>	<b>TWA</b>	<b>STEL/C</b>	<b>Critical Effect(s)</b>
<i>PNOC<sup>1</sup> Inhalable</i>		15	10	-	Lung
<i>Respirable</i>		5	3	-	Lung
<i>Fe<sub>2</sub>O<sub>3</sub> (Iron Oxide)</i>	1309-37-1	10	5	-	Pneumoconiosis
<i>Al<sub>2</sub>O<sub>3</sub> (Aluminum Oxide)</i>	1344-28-1	15	10	-	Lung; irritation
<i>CaO (Calcium Oxide)</i>	1305-78-8	5	2	-	Irritation
<i>MgO (Magnesium Oxide)</i>	1309-48-4	15	10	-	Irritation; metal fume fever
<i>TiO<sub>2</sub> (Titanium Dioxide)</i>	13463-67-7	15	10	-	Lung

<sup>1</sup> Particulates (Insoluble) Not Otherwise Classified

**OSHA** PEL – Permissible Exposure Limit (mg/m<sup>3</sup>)

**ACGIH**    **TWA** – Time Weighted Average (mg/m<sup>3</sup>)  
              **STEL/C** – Short-term Exposure Limit / Ceiling (mg/m<sup>3</sup>)

In other jurisdiction, please consult appropriate occupational exposure regulations.

Reference:        1999 TLV's and BEI's Threshold Limit Values for Chemical Substances and Physical Agents  
                         Biological Exposure Indices

## **SECTION 7 - PREVENTATIVE MEASURES**

**EYE PROTECTION:** Safety goggles or glasses, as required by nature of task(s) being performed.

**SKIN PROTECTION:** Impervious gloves recommended and other clothing as required by nature of work being done.

**VENTILATION:** Use adequate ventilation and dust collection.

**RESPIRATORY PROTECTION:** The following chart specifies the types of respirators to be used based on airborne concentrations of respirable crystalline silica. This chart has been provided as a guide for protection of personnel that may be exposed to airborne concentrations of any particulate matter.

**Airborne Concentration**  
(Respirable Free Silica)

**Type of Respirator Required**

< or equal to 10 X TWAEV

*Half-mask particulate respirator with N-, R-, or P- series filter and 95, 99, or 100% efficiency.*

< or equal to 25 X TWAEV

*Powered air purifying respirator equipped with a hood or helmet, and any type of particulate filter; or supplied air respirator equipped with a hood or helmet and operated in a continuous flow mode.*

TWAEV – time-weighted average exposure value

*Where applicable, **respirators should be fitted, maintained, and cleaned in accordance with the regulations made under the Occupational Health and Safety Act.***

**OTHER PROTECTIVE EQUIPMENT:** As required by nature of work being done.

**LEAKS AND SPILLS:** Avoid breakage of bagged material or spills of bulk material. Do not dry sweep, use a dustless system (vacuum) for clean up so that airborne dust does not exceed the permissible exposure limit.

**WASTE DISPOSAL INFORMATION:** Dispose in accordance with federal, state or local regulations. Material contaminated in use may have special disposal requirements. Dispose in accordance with federal, state or local regulations

**HANDLING PROCEDURES AND EQUIPMENT:** Use adequate ventilation and dust collection. Do not permit dust to collect on walls, floors, ledges, machinery, or equipment. Use dustless system (vacuum) for handling, storage and clean up so that airborne dust does not exceed the permissible exposure limit.

**STORAGE REQUIREMENTS:** No special storage procedures required. Avoid dust generation when handling.

## **SECTION 8 – FIRST AID MEASURES**

**SKIN CONTACT:** Wash with soap and water.

**EYE EXPOSURE:** Flush with water and seek medical advice if irritation persists.

**INGESTION:** Seek immediate medical aid.

**INHALATION:** Remove to fresh air. If breathing difficulty is encountered, seek medical aid.

<b>SECTION 9 - PREPARATION DATE OF MSDS</b>
---

The MSDS was prepared from information provided by raw material suppliers to Opta Minerals.

**DATE ISSUED:** April 9, 2012

**CONTACT:** Operations Supervisor  
Quality Control Coordinator

For non-emergency questions, please contact your sales person.  
General inquiries may be directed to 800-743-0094.