

## MATERIAL SAFETY DATA SHEET

### SECTION I - PRODUCT INFORMATION

Gray Blast - Page 1 of 4

Distributor's Name: <b>BELL &amp; MACKENZIE CO. LTD.</b>	Emergency Phone #: (905) 527-6000
Distributor's Address: 500 Sherman Ave. N., P. O. Box 844, L.C.D. #1, Hamilton, Ontario L8N 3N9	
Common Name: <b>Anorthite group, by-product mineral</b>	
Trade Name & Synonyms: <b>GRAY BLAST</b>	Chemical Family: CAS #68476-96-0, particulates not otherwise regulated.
Product Uses: Sandblast sand, non-slip surfaces, roofing granule	

### SECTION II - HAZARDOUS INGREDIENTS

Material or Components	%	OSHA (PEL)	ONT M.O.L. REG #833	ACGIH (TLVE)
Silicon Dioxide (SiO <sub>2</sub> ) Amorphous, total CAS #7631-86-9	45.10%	15 mg/m <sup>3</sup>	N.E.	10 mg/m <sup>3</sup> ** * inhalable fraction
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ) CAS #1344-28-1	27.60%	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> ) CAS #1309-37-1	7.54%	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Magnesium Oxide (MgO) CAS #1309-48-4	4.84%	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Calcium Oxide (CaO) CAS #1305-78-8	6.88%	5 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Sodium Oxide (NaO) CAS #12401-86-4	4.05%	N.E.	N.E.	N.E.
Potassium Oxide (K <sub>2</sub> O) CAS #12136-45-7	0.68%	N.E.	N.E.	N.E.
Titanium Oxide (TiO <sub>2</sub> ) CAS #13463-67-7	2.27%	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Chromium Oxide (Cr <sub>2</sub> O <sub>3</sub> ) CAS #1308-38-9	0.11%	0.5 mg/m <sup>3</sup>	N.E.	0.5 mg/m <sup>3</sup>
Silicon Dioxide (SiO <sub>2</sub> ) Quartz CAS #14808-60-7	<0.10%	10 mg/m <sup>3</sup> /%SiO <sub>2</sub> +2	0.10 mg/m <sup>3</sup>	0.10 mg/m <sup>3</sup>
N.E. - Not Established				

Low health risk by inhalation. Treat as a nuisance dust. Use ACGIH (American Conference of Governmental Industrial Hygienists) TLV (Threshold Limit Values) for nuisance dust exposure guidelines. This product is a stable, amorphous by-product, consisting mainly of anorthosite, hematite & spinel. Human toxic response has not been demonstrated for any route of entry.

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H.M.I.S. Hazard Rating		H.M.I.S. Hazard Rating Scale	
Health:	1	0 = minimal	3 = serious
Fire:	0	1 = slight	4 = severe
Reactivity:	0	2 = moderate	

**SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS**

Physical State:	Solid granules	Melting Point:	2,400°F/1,315°C
Appearance and Odor:	Grey, No Odor	Freezing Point:	not applicable
Odour Threshold (ppm):	not applicable	pH Level:	7
Specific Gravity (H <sub>2</sub> O = 1):	2.95	% Volatile by Volume:	not applicable
Vapour Pressure (mm):	not applicable	Solubility in Water:	Insoluble
Vapour Density (Air = 1):	not applicable	Coefficient of water/oil distrib	not applicable
Evaporation Rate (Butyl Acetate = 1):	not applicable	Bulk Density:	approximately 95 lbs/ft <sup>3</sup>

**SECTION IV - FIRE & EXPLOSION HAZARD DATA**

Special Fire Fighting Procedures:	None required	Flammable Limits:	Non-flammable
Unusual Fire & Explosion Hazards:	None	Flash Point:	not applicable
Transportation of Dangerous Goods Classification:	Not regulated	Extinguishing Media:	not applicable
		Explosion Limits:	Non-explosive

**SECTION V - REACTIVITY DATA**

Stability:	Stable	Hazardous Decomposition Products:	None
Incompatibility (Materials to Avoid):	None	Reactivity & under what conditions:	Stable under normal
Hazardous Polymerization:	not applicable		conditions of use, storage, and transportation.

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**SECTION VI - TOXICOLOGICAL PROPERTIES**

<b>Carcinogenicity:</b>	NTP: No	OSHA Regulated: No	IARC Monographs: No
<b>Routes of Entry:</b>	Skin: No	Inhalation: low health risk	Ingestion: No
<b>Threshold Limit Value:</b>	None Established. See Section VI.		
Treat as a nuisance dust. Typical free silica (quartz) less than 0.1%. Human toxic response has not been demonstrated for any route of entry. Mechanical irritation may occur to eyes, skin, or respiratory tract. Pre-existing health conditions may be aggravated. Pneumonconiosis may be possible from chronic over exposure. It is believed that if the PEL is not exceeded and recommended precautions are followed that this product will not be a health hazard.			
<b>Effects of Overexposure:</b>			
	Short Term: No effect other than as a nuisance dust.		
	Long Term: As with any nuisance dust, long-term exposure to dust concentrations higher than recommended Permissible Exposure Limit may cause delayed lung injury.		

**SECTION VII - PREVENTATIVE MEASURES & PRECAUTIONS FOR SAFE HANDLING & USE**

<b>Steps to be taken in case material is released or spilled:</b>	No special procedures required for clean-up. Wetting with water will reduce airborne dust.
<b>Waste Disposal Method:</b>	If uncontaminated this product may be disposed of as an inert non-hazardous material in an appropriate solid waste landfill according to applicable Federal, State/Provincial and Local Regulations.
<b>Other Precautions:</b>	If material is used for abrasives, equipment used must be frequently inspected to ensure timely replacement. Avoid creation of respirable dust.
<b>Respiratory Protection:</b>	Use appropriate NIOSH certified respiratory protection, as required by OSHA for exposure above PEL.
<b>Ventilation:</b>	Keep dust level below PEL. Maintain sufficient ventilation to allow visual contact with work surfaces.
<b>Eye Protection:</b>	Hood with protective lenses and or safety glasses
<b>Protective Gloves:</b>	Standard abrasive blaster's gloves.
<b>Other Protective Equipment:</b>	Use appropriate abrasive blasting protective equipment.
<b>Work Hygiene Practices:</b>	Thoroughly wash hands and face prior to eating or smoking
<b>Other Precautions:</b>	Keep dry and free of all contamination to assure free flow. Use an appropriate safety screen over fill hatch of blasting pot. Respirable dust may be generated during pressure abrasive cleaning operations.

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**SECTION VIII - FIRST AID & EMERGENCY MEASURES**

Eye Contact:	Immediately flush eyes thoroughly with water or an ophthalmic saline solution.
Skin Contact:	Wash skin with cold water & soap if irritation occurs.
Inhalation:	Remove affected person(s) to fresh air source.
Oral Intake:	Rinse mouth out with water.
<i>If symptoms persist, contact a physician or other medical personnel.</i>	

"The opinions expressed herein have been compiled from sources which the company believes to be dependable, and is accurate and reliable for the normal and intended use of this product as of the date of this Material Safety Data Sheet. However, the company makes no warranty of any kind with respect to the accuracy or completeness of the data and assumes no responsibility for any liability or damages relating thereto. It is the user's obligation to determine and observe the conditions of safe use and disposal of the product by their operations."

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