

Powerblast XC

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Powerblast XC
Product Identifier	Not applicable
MSDS No.	0010074
Manufacturer / Supplier	Opta Minerals Inc., 407 Parkside Drive P.O. Box 260, Waterdown, Ontario, Canada, L0R 2H0, (905) 689-7361, www.optaminerals.com
Emergency Contact Information	CHEMTREC (Canada & USA), 1-800-424-9300, 24 hours CHEMTREC, (outside North America), 1-703-527-3887, 24 hours
Use	blasting media

2. HAZARDS IDENTIFICATION

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

Potential Health Effects

Route of Exposure	Inhalation. Skin contact. Eye contact. Ingestion.
Inhalation	May irritate or cause inflammation or pulmonary fibrosis of the respiratory system. Free crystalline silica (quartz) has been attributed to causing silicosis.
Skin Contact	May cause skin irritation.
Eye Contact	May cause moderate to severe irritation.
Ingestion	May cause irritation or nausea.
Effects of Long-Term (Chronic) Exposure	May irritate the respiratory system. Many minerals contain very low levels (less than 0.05% by weight) of naturally occurring radioactive elements of uranium and thorium types. Close proximity to large bulk or stockpiles over long periods of time (2,000 hours per year) may result in direct exposure. This material is exempt from NRC regulations because it is below the 0.05% levels.
Carcinogenicity	Crystalline Silica (quartz) and Uranium have been determined as carcinogens.
Teratogenicity / Embryotoxicity	There is no evidence this product contributes Teratogenicity or Embryotoxicity properties.
Reproductive Toxicity	No ingredients in this product are known to contribute to reproductive toxicity.
Mutagenicity	No ingredients in this product are known to cause mutagenicity.
Target Organs	Respiratory system.
Toxicologically Synergistic Materials	Not available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration %	Other Identifiers
Staurolite	12182-56-8	81-86	
Tourmaline	1317-93-7	7-10	

ilmenite / Rutile / Leucosene	13463-67-7	5-15	TiO ₂
Zirconium(IV) silicate (1:1)	14940-68-2	1-2	ZrO ₂ SiO ₂
Kyanite / Sillimanite	1302-76-7	0-2	
Silica, crystalline quartz	14808-60-7	0-1	SiO ₂
Uranium (natural)	7440-61-1	*	U
Thorium (natural)	7440-29-1	*	Th
* Combined natural Thorium and Uranium levels are less than 0.05%			

4. FIRST AID MEASURES

First Aid Procedures

Inhalation	Move victim to fresh air. If victim is experiencing asthma-like symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor.
Skin Contact	Wash gently and thoroughly with lukewarm, gently flowing water and non-abrasive soap for 5 minutes.
Eye Contact	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If irritation or pain persists, see a doctor.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. DO NOT INDUCE VOMITING. Call a Poison Centre or doctor if the victim feels unwell.

5. FIRE FIGHTING MEASURES

Flammable Properties	Does not burn.
Suitable Extinguishing Media	Not combustible. Use extinguishing agent suitable for surrounding fire.
Unsuitable Extinguishing Media	Not applicable.
Specific Hazards Arising from the Chemical	This product presents no unusual hazards in a fire situation. Not known to generate any hazardous decomposition products in a fire.
Protective Equipment and Precautions for Firefighters	No special precautions are necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use the Personal Protective Equipment recommended in Section 8 of this MSDS. Review Section 7 (Handling) of this MSDS before proceeding with clean-up.
Environmental Precautions	It is good practice to prevent releases into the environment.
Methods for Containment and Clean-up	Avoid generating dust. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal.

7. HANDLING AND STORAGE

Handling	Avoid generating dusts. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces.
-----------------	---

MSDS Name: Powerblast XC - Ver. 4
MSDS No.: 0010074
Date of Preparation: March 26, 2014

Storage

Store in an area that is: dry.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Staurolite			5 mg/m3 *			
ilmenite / Rutile / Leucosene	10 mg/m3		15 mg/m3			
Tourmaline			Not established			
Zirconium(IV) silicate (1:1)			5 mg/m3			
Kyanite / Sillimanite			5 mg/m3 *			
Silica, crystalline quartz			0.1 mg/m3 * A2			
Uranium (natural)	0.2 mg/m3 A1					
Thorium (natural)			Not established			

Exposure Guideline Comments * respirable total dust, OSHA (PEL)= 15 mg/m3 crystalline Silica, ACGIH, TWA, 0.10 mg / m3 (ACGIH), 0.025 mg /m3, respirable

Exposure to Uranium or Thorium should be as low as reasonably achievable when proper protective equipment is worn and should not exceed 100 milliseiverts per year over five consecutive years.

Engineering Controls Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

Personal Protective Equipment (PPE)

Eye/Face Protection Wear chemical safety goggles and face shield when contact is possible. Do not get in eyes.

Skin Protection Avoid repeated or prolonged skin contact. Always wear insulated protective clothing, if contact is possible.

Respiratory Protection Wear a NIOSH approved air-purifying respirator with N95 or higher rating filter(s). In conditions where the levels of airborne dust exceed the capabilities of the above referenced respirators, a supplied-air respirator may be necessary.

General Hygiene Considerations It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area. Remove contaminated clothing and protective equipment before entering eating areas or leaving work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Brown - black.
Odour	Faint
Odour Threshold	Not applicable
Boiling Point	Not applicable
Freezing Point	Not applicable
Relative Density (water = 1)	Not available
Solubility in Water	Not applicable
pH	Not applicable
Partition Coefficient, n-Octanol/Water	Not applicable

MSDS Name: Powerblast XC - Ver. 4

MSDS No.: 0010074

Date of Preparation: March 26, 2014

Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Evaporation Rate	Not applicable
Flash Point	Not applicable
Lower Flammable/Explosive Limit	Not applicable
Upper Flammable/Explosive Limit	Not applicable
Auto-ignition Temperature	Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability	Normally stable.
Conditions to Avoid	Generation of dust.
Incompatible Materials	Strong acids (e.g. hydrochloric acid). Strong oxidizing agents (e.g. perchloric acid).
Hazardous Decomposition Products	Not applicable.
Possibility of Hazardous Reactions	Not applicable.

11. TOXICOLOGICAL INFORMATION

LC50/LD50 Values

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Staurolite	Not available	Not available	Not available
ilmenite / Rutile / Leucoxene	> 6,820 mg/m ³ (rat)	> 25,000 mg/kg (rat)	Not available
Tourmaline	Not available	Not available	Not available
Zirconium(IV) silicate (1:1)	Not available	Not available	Not available
Kyanite / Sillimanite	Not available	Not available	Not available
Silica, crystalline quartz	Not available	500 mg/kg (rat)	Not available
Uranium (natural)	Not available	750 mg/kg (rat)	Not available
Thorium (natural)	Not available	Not available	Not available

Skin Irritation/Corrosion

May cause irritation.

Eye Irritation/Corrosion

May cause moderate or severe irritation based on information for closely related materials.

Effects of Short-Term (Acute) Exposure

Inhalation

May irritate or cause inflammation or pulmonary fibrosis of the respiratory system.

Skin Absorption

May cause irritation.

Ingestion

May cause irritation or nausea.

Effects of Long-Term (Chronic) Exposure

Long term inhalation of dusts can attribute to risk of lung diseases.

Respiratory and/or Skin Sensitization

MSDS Name: Powerblast XC - Ver. 4
 MSDS No.: 0010074
 Date of Preparation: March 26, 2014

May cause respiratory or skin sensitization based on limited evidence.

Carcinogenicity

Crystalline Silica (quartz) and uranium have been determined as carcinogens.

Teratogenicity / Embryotoxicity

There is no evidence this product contributes Teratogenicity or Embryotoxicity.

Reproductive Toxicity

No ingredients in this product are known to contribute to reproductive toxicity.

Mutagenicity

Not known to be a mutagen.

Toxicologically Synergistic Materials

None known.

12. ECOLOGICAL INFORMATION

General Comments Environmental information was not located.

13. DISPOSAL CONSIDERATIONS

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

14. TRANSPORT INFORMATION

Other Transport Information

Special Shipping Information Not applicable

15. REGULATORY INFORMATION

16. OTHER INFORMATION

NFPA Rating Health - 1 Flammability - 0 Instability - 0

MSDS Prepared By Mark Bryans

Phone No. (905) 689-7361, ext 234

Date of Preparation March 26, 2014

Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
OSHA = US Occupational Safety and Health Administration
HSDB® = Hazardous Substances Data Bank

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Accelrys, Inc. Available from Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer To the best of our knowledge, the information contained herein is accurate. Although certain hazards are described herein, we can not guarantee that these are the only hazards that exist.
Opta Minerals Inc. assumes no liability arising out of the use of this product by others.

MSDS Name: Powerblast XC - Ver. 4

MSDS No.: 0010074

Date of Preparation: March 26, 2014

Page 05 of 06

MSDS Name: Powerblast XC - Ver. 4
MSDS No.: 0010074
Date of Preparation: March 26, 2014

Page 06 of 06