

## Jetcut 80S

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Jetcut 80S
<b>Product Identifier</b>	Not applicable
<b>MSDS No.</b>	0009921
<b>Manufacturer / Supplier</b>	Opta Minerals Inc., 407 Parkside Drive P.O. Box 260, Waterdown, Ontario, Canada, L0R 2H0, (905) 689-7361, www.optaminerals.com
<b>Emergency Contact Information</b>	CHEMTREC (Canada & USA), 1-800-424-9300, 24 hours CHEMTREC, (outside North America), 1-703-527-3887, 24 hours
<b>Use</b>	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

<b>Route of Exposure</b>	Inhalation. Skin contact. Eye contact. Ingestion.
<b>Inhalation</b>	May irritate or cause inflammation or pulmonary fibrosis of the respiratory system. Free crystalline silica (quartz) has been attributed to causing silicosis.
<b>Skin Contact</b>	May cause skin irritation.
<b>Eye Contact</b>	May cause moderate to severe irritation.
<b>Ingestion</b>	May cause irritation or nausea.
<b>Effects of Long-Term (Chronic) Exposure</b>	Long term inhalation of dusts can attribute to risk of lung diseases. 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.
<b>Carcinogenicity</b>	Crystalline Silica (quartz) and Uranium have been determined as carcinogens.
<b>Teratogenicity / Embryotoxicity</b>	There is no evidence this product contributes Teratogenicity or Embryotoxicity properties.
<b>Reproductive Toxicity</b>	No ingredients in this product are known to contribute to reproductive toxicity.
<b>Mutagenicity</b>	No ingredients in this product are known to cause mutagenicity.
<b>Target Organs</b>	Respiratory system.
<b>Toxicologically Synergistic Materials</b>	None known.

#### Potential Environmental Effects

Large or frequent spills may have an effect on the environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Registry No.	Concentration %	Other Identifiers
Aluminum oxide	1344-28-1	~44.0	Al <sub>2</sub> O <sub>3</sub>
Silica, amorphous	61790-53-2	~27.1	SiO <sub>2</sub>
Iron Oxide	1309-37-1	~15.7	Fe <sub>2</sub> O <sub>3</sub>
Titanium Dioxide	13463-67-7	~8.14	TiO <sub>2</sub>
Zirconium(IV) silicate (1:1)	14940-68-2	~2.96	ZrSiO <sub>4</sub>
Magnesium oxide	1309-48-4	~1.73	MgO
Manganese	7439-96-5	~0.28	Mn
Uranium (natural)	7440-61-1	*	U
Thorium (natural)	7440-29-1	*	Th
Silica, crystalline quartz	14808-60-7	0.5-1.0	SiO <sub>2</sub>
* Combined natural Thorium and Uranium levels are less than 0.05%.			

### 4. FIRST AID MEASURES

#### First Aid Procedures

<b>Inhalation</b>	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.
<b>Skin Contact</b>	Wash gently and thoroughly with lukewarm, gently flowing water and non-abrasive soap for 5 minutes.
<b>Eye Contact</b>	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.
<b>Ingestion</b>	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

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

### 6. ACCIDENTAL RELEASE MEASURES

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

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## 7. HANDLING AND STORAGE

<b>Handling</b>	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.
<b>Storage</b>	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
Aluminum oxide	1 mg/m3 * A4		5 mg/m3 *			
Silica, amorphous			6 mg/m3 *			
Iron Oxide	5 mg/m3 * A4		10 mg/m3 *			
Titanium Dioxide	10 mg/m3		15 mg/m3			
Zirconium(IV) silicate (1:1)			5 mg/m3			
Magnesium oxide	10 mg/m3 * A4		15 mg/m3			
Manganese	0.2 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

<b>Physical State</b>	Solid
<b>Appearance</b>	Red - brown.

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<b>Odour</b>	Faint
<b>Odour Threshold</b>	Not applicable
<b>Boiling Point</b>	Not applicable
<b>Freezing Point</b>	Not applicable
<b>Relative Density (water = 1)</b>	Not available
<b>Bulk Density</b>	1900 kg/m <sup>3</sup>
<b>Solubility in Water</b>	Not applicable
<b>pH</b>	Not applicable
<b>Partition Coefficient, n-Octanol/Water</b>	Not applicable
<b>Vapour Pressure</b>	Not applicable
<b>Vapour Density (air = 1)</b>	Not applicable
<b>Evaporation Rate</b>	Not applicable
<b>Flash Point</b>	Not applicable
<b>Lower Flammable/Explosive Limit</b>	Not applicable
<b>Upper Flammable/Explosive Limit</b>	Not applicable
<b>Auto-ignition Temperature</b>	Not applicable

## 10. STABILITY AND REACTIVITY

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

## 11. TOXICOLOGICAL INFORMATION

### LC50/LD50 Values

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Aluminum oxide	Not available	> 5,000 mg/kg (rat)	Not available
Silica, amorphous	Not available	3,160 mg/kg (rat)	Not available
Iron Oxide	Not available	> 10,000 mg/kg (rat)	Not available
Titanium Dioxide	> 6,820 mg/m <sup>3</sup> (rat)	> 25,000 mg/kg (rat)	Not available
Zirconium(IV) silicate (1:1)	Not available	Not available	Not available
Magnesium oxide	Not available	810 mg/kg (mouse)	Not available
Manganese	Not available	9,000 mg/kg (rat)	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.

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## 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

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

No information was located.

## 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

**MSDS Prepared By** Mark Bryans  
**Phone No.** (905) 689-7361, ext 234  
**Date of Preparation** March 26, 2013  
**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).

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Registry of Toxic Effects of Chemical Substances (RTECS®) database. Symyx Software, 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.