

## Garnet Sand IG

### SECTION 1. IDENTIFICATION

**Product Identifier** Garnet Sand IG  
**Other Identification** Garnet Andradite  
**Recommended Use** Abrasive jet cutting, filtration and blast cleaning media.  
**Restrictions on Use** Use only as directed.  
**Manufacturer / Supplier** Opta Minerals Inc., 407 Parkside Drive  
P.O. Box 260, Waterdown, Ontario, Canada, L0R 2H0, (905) 689-7361,  
www.optaminerals.com  
**Emergency Phone No.** CHEMTREC (Canada & USA), 1-800-424-9300, 24 hours  
CHEMTREC, (outside North America), 1-703-527-3887, 24 hours  
**SDS No.** 0010071

### SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**

Carcinogenicity - Category 1A; Specific target organ toxicity (repeated exposure) - Category 1

**GHS Label Elements**



Danger

May cause cancer or damage to respiratory system through prolonged or repeated exposure by inhalation.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Silica, amorphous	61790-53-2	30-40	SiO <sub>2</sub>
Iron Oxide	1309-37-1	25-35	Fe <sub>2</sub> O <sub>3</sub>
Calcium oxide, reacted	1305-78-8	20-30	CaO
Andradite	15078-96-3	>99	
Aluminum oxide	1344-28-1	1-5	Al <sub>2</sub> O <sub>3</sub>
Manganese oxide	1317-35-7	1-3	MnO
Magnesium oxide	1309-48-4	1-3	MgO
Titanium Dioxide	13463-67-7	1-3	TiO <sub>2</sub>
Zirconium oxide	1314-23-4	1-3	ZrO <sub>2</sub>
Silica, crystalline quartz	14808-60-7	<1	SiO <sub>2</sub>

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

Product Identifier: Garnet Sand IG  
SDS No.: 0010071  
Date of Preparation: October 24, 2014

### **Inhalation**

Move to fresh air. If experiencing respiratory 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 mild soap for 5 minutes.

### **Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

If eye irritation persists, get medical advice/attention.

### **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 you feel unwell or are concerned.

### **Most Important Symptoms and Effects, Acute and Delayed**

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

### **Immediate Medical Attention and Special Treatment**

#### **Target Organs**

Respiratory system.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Not combustible. Use extinguishing agent suitable for surrounding fire.

#### **Unsuitable Extinguishing Media**

Not applicable.

### **Specific Hazards Arising from the Chemical**

Does not burn.

This product presents no unusual hazards in a fire situation.

Not known to generate any hazardous decomposition products in a fire.

### **Special Protective Equipment and Precautions for Fire-fighters**

No special precautions are necessary.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up.

### **Environmental Precautions**

Although this product is not classified as an environmentally hazardous material, large or frequent spills may cause potential problems.

### **Methods and Materials for Containment and Cleaning Up**

Avoid generating dust. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal.

## **SECTION 7. HANDLING AND STORAGE**

### **Precautions for Safe Handling**

Avoid generating dusts. Wear personal protective equipment to avoid direct contact with this chemical.

### **Conditions for Safe Storage**

Store in an area that is: dry.

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Product Identifier: Garnet Sand IG  
SDS No.: 0010071  
Date of Preparation: October 24, 2014

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Silica, amorphous			6 mg/m3 *			
Iron Oxide	5 mg/m3 * A4		10 mg/m3 *			
Calcium oxide, reacted	2 mg/m3		5 mg/m3			
Aluminum oxide	1 mg/m3 * A4		5 mg/m3 *			
Manganese oxide	0.2 mg/m3					
Magnesium oxide	10 mg/m3 * A4		15 mg/m3			
Titanium Dioxide	10 mg/m3		15 mg/m3			
Zirconium oxide	10 mg/m3					
Silica, crystalline quartz	0.025 mg/m3 * A2					
Andradite	5 mg/m3					

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

### Appropriate 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.

### Individual Protection Measures

#### 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Grey - brown crystalline.
<b>Odour</b>	Faint
<b>Odour Threshold</b>	Not applicable
<b>pH</b>	Not applicable
<b>Melting Point/Freezing Point</b>	Not applicable (freezing)
<b>Initial Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	Not applicable
<b>Upper/Lower Flammability or Explosive Limit</b>	Not applicable (upper); Not applicable (lower)
<b>Vapour Pressure</b>	Not applicable
<b>Vapour Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	Not available

Product Identifier: Garnet Sand IG  
 SDS No.: 0010071  
 Date of Preparation: October 24, 2014

<b>Solubility</b>	Not applicable in water
<b>Auto-ignition Temperature</b>	Not applicable
<b>Other Information</b>	
<b>Physical State</b>	Solid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Not applicable.

### 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.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Silica, amorphous	Not available	3,160 mg/kg (rat)	Not available
Iron Oxide	Not available	> 10,000 mg/kg (rat)	Not available
Calcium oxide, reacted	Not available	> 2,000 mg/kg (rat)	Not available
Aluminum oxide	Not available	> 5,000 mg/kg (rat)	Not available
Manganese oxide	Not available	Not available	Not available
Magnesium oxide	Not available	810 mg/kg (mouse)	Not available
Titanium Dioxide	> 6,820 mg/m <sup>3</sup> (rat)	> 25,000 mg/kg (rat)	Not available
Zirconium oxide	Not available	> 8,800 mg/kg (rat)	Not available
Silica, crystalline quartz	Not available	22,500 mg/kg (rat)	Not available
Andradite	Not available	Not available	Not available

### Skin Corrosion/Irritation

May cause irritation.

### Serious Eye Damage/Irritation

May cause irritation or injury due to mechanical abrasion.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

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

#### Skin Absorption

May cause irritation.

Product Identifier: Garnet Sand IG  
 SDS No.: 0010071  
 Date of Preparation: October 24, 2014

### **Ingestion**

May cause irritation or nausea.

### **Aspiration Hazard**

May be drawn into the lungs (aspirated) if swallowed or vomited.

### **STOT (Specific Target Organ Toxicity) - Repeated Exposure**

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

Inhalation of respirable silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of silica dust may cause serious health effects which can include the following; Silicosis, Accelerated Silicosis, Acute Silicosis, Cancer, Autoimmune Disease, Tuberculosis and Kidney Disease.

### **Respiratory and/or Skin Sensitization**

May cause irritation on prolonged contact.

### **Carcinogenicity**

Crystalline Silica (quartz) has been determined as carcinogen.

### **Reproductive Toxicity**

#### **Development of Offspring**

There is no evidence this product contributes Teratogenicity or Embryotoxicity.

#### **Sexual Function and Fertility**

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

### **Germ Cell Mutagenicity**

Not known to be a mutagen.

### **Interactive Effects**

None known.

## **SECTION 12. ECOLOGICAL INFORMATION**

Although this product is not classified as an environmentally hazardous material, large or frequent spills may cause potential problems.

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal Methods**

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.

## **SECTION 14. TRANSPORT INFORMATION**

Not regulated under Canadian TDG Regulations. Not regulated under US DOT Regulations.

## **SECTION 15. REGULATORY INFORMATION**

### **Safety, Health and Environmental Regulations**

#### **Canada**

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

## **SECTION 16. OTHER INFORMATION**

<b>SDS Prepared By</b>	Mark Bryans
<b>Phone No.</b>	(905) 689-7361, ext 234
<b>Date of Preparation</b>	October 24, 2014

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Product Identifier:	Garnet Sand IG
SDS No.:	0010071
Date of Preparation:	October 24, 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.

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Product Identifier: Garnet Sand IG  
SDS No.: 0010071  
Date of Preparation: October 24, 2014

Page 06 of 06