
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product identifier : Garnet Sand IG
Other identifier : Garnet Andradite
CAS No. : 15078-96-3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation : Abrasive jet cutting, filtration and blast cleaning media.
Use only as directed.

1.3. Details of the supplier of the safety data sheet

Carbon Enterprises Inc.
PO Box 787
28205 Scippo Creek Rd
Circleville, OH 43113
800-344-5770

info@ceifiltration.com
ceifiltration.com

1.4. Emergency telephone number

Emergency number 740-420-6472
9:00 AM to 4:30 PM
Monday through Friday

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Carc. 1A H350
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



: GHS08
Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H335 - May cause respiratory irritation
H350 - May cause cancer (inhalation)
Precautionary statements (GHS-US) : P260 - Do not breath dust
P285 - In case of inadequate ventilation, wear respiratory protection

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Other Identifiers
Silica, amorphous	(CAS No.) 61790-53-2	30-40	SiO ₂

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Iron Oxide	(CAS No.) 1309-37-1	25-35	Fe2O3
Calcium oxide, reacted	(CAS No.) 13905-78-8	20-30	CaO
Andradite	(CAS No.) 15078-96-3	<99	
Aluminum oxide	(CAS No.) 1344-28-1	1-5	AL2O3
Manganese oxide	(CAS No.) 1317-35-7	1-3	MnO
Magnesium oxide	(CAS No.) 1309-48-4	1-3	MgO
Titanium Dioxide	(CAS No.) 13463-67-7	1-3	TiO2
Zirconium oxide	(CAS No.) 1314-23-4	1-3	ZrO2
Silica, crystalline quartz	(CAS No.) 14808-60-7	<1	SiO2

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If medical advice is needed, have product container or label at hand.
- First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.
- First-aid measures after skin contact : Rinse immediately with plenty of water. Gently wash with plenty of soap and water. Obtain medical attention if irritation persists.
- First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Seek medical attention if material is embedded in eye. If eye irritation persists: Get medical advice and attention.
- First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Repeated or prolonged inhalation may damage lungs
- Symptoms/injuries after inhalation : May irritate or cause inflammation or pulmonary fibrosis of the respiratory system
- Symptoms/injuries after skin contact : Prolonged contact with large amounts of dust may cause mechanical irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
- Symptoms/injuries after eye contact : Redness, pain.
- Symptoms/injuries after ingestion : Abdominal pain.
- Chronic symptoms : Respiratory difficulties. May cause cancer.

4.3. Indication of any immediate medical attention and special treatment needed

- Target Organs : Respiratory system

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable.
- Explosion hazard : No particular fire or explosion hazard.
- Reactivity : Hazardous reactions will not occur under normal conditions.

5.3. Advice for firefighters

- Precautionary measures fire : Fight fire with normal precautions from a reasonable distance.
- Firefighting instructions : Not flammable.
- Protection during firefighting : Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Do not breathe dust. Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

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6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. Use recommended respiratory protection.

Emergency procedures : Collect as any solid.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

6.4. Reference to other sections

Review section 7 (Handling and storage) of this safety data sheet before proceeding with clean-up

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Do not breathe dust.

Precautions for safe handling : Avoid creating or spreading dust.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke in areas where product is used.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool place. Keep container tightly closed.

Incompatible material : Strong acids (e.g. hydrochloric acid) and strong oxidizing agents (e.g. perchloric acid)

Storage area : Store in dry, cool area.

Special rules on packaging : Keep container closed when not in use.

7.3. Specific end use(s)

Abrasive jet cutting, filtration and blast cleaning media

SECTION 8: Exposure controls/personal protection

8.1. 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/3m		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 0.16 mg/m3 (ACGIH), 0.025 mg/m3, respirable

8.2. Exposure controls

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.

Personal protective equipment : In case of dust productions; dustproof clothing. In case of dust production: protective goggles. Insufficient ventilation: wear respiratory protection. High dust production: self-

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contained breathing apparatus.



Hand protection	:	Impermeable protective gloves.
Eye protection	:	Chemical safety goggles and face shield when contact is possible
Skin and body protection	:	Avoid repeated or prolonged skin contact. Always wear insulated protective clothing, if contact is possible.
Respiratory protection	:	Use NIOSH-approved air-purifying 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
Consumer exposure controls	:	Do not breathe dust. Wear recommended personal protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Grey – brown crystalline
Odor Threshold	:	Not applicable
pH	:	Not applicable
Melting Point/Freezing Point	:	Not applicable (freezing)
Initial Boiling Point/Range	:	Not applicable
Flash Point	:	Not applicable
Evaporation Rate	:	Not applicable
Upper/Lower Flammability or Explosive Limit	:	Not applicable (upper); Not applicable (lower)
Vapor Pressure	:	Not applicable
Vapor Density (air = 1)	:	Not applicable
Relative Density (water = 1)	:	Not applicable in water
Solubility	:	Not applicable
Auto-ignition Temperature	:	

9.2. Other information

Physical State	:	Solid
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SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive under normal conditions of use

10.2. Chemical stability

Normally stable

10.3. Possibility of hazardous reactions

Not applicable

10.4. Conditions to avoid

Generation of dust

10.5. Incompatible materials

Strong acids (e.g. hydrochloric acid)

Strong oxidizing agents (e.g. perchloric acid)

10.6. Hazardous decomposition products

Not applicable

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely Routes of Exposure	:	Inhalation
Acute toxicity	:	

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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 ³ (rat)	>25,000 mg/kg (rat)	Not available
Zirconium oxide	Not available	>8,800 mg/kg (rat)	Not available
Silica, crystalline quart	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
 - 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 of 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 know to be a mutagen
- Interactive Effects : None Known

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

No ingredient of this product or its degradation products is known to be highly persistent

12.3. Bio accumulative potential

This product and its degradation products are not known to bio accumulate

12.4. Mobility in soil

If released into the environment, this product does not move through the soil

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. The

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required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14: Transport information

14.1. Regulations

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

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
IMO (Marine)	Not allocated	Not classified for transportation	Not classed as Dangerous	Not classified for transportation

Special Precautions : Please note: Not classified as a marine pollutant

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Product Name : Andradite Garnet


SECTION 15: Regulatory information

15.1. US Federal regulations

SARA Section 311/312 Hazard Classes	Hazard Categories for SARA Sections 311/312 Reporting: Crystalline silica (Acute and Chronic Health Hazard)
SARA Section 313 Hazard Classes	Product contains no chemicals that are subject to Annual Release Reporting Requirements

15.2. International regulations

15.2.1 Canada

Domestic Substances List (DSL)/Non-Domestic Substances List (NDSL)	Andradite Garnet is not listed on the DLS, however all of the chemical components of the garnet are listed	 Class D2A
WHMIS Classification	Class D Division 2 Subdivision A – Very Toxic (Carcinogenicity)	
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.		

15.2.2. Custom regulatory 1

IARC: Crystalline silica (quartz) is classified in IARC Group 1 Carcinogen

15.3. US State regulations

U.S. - California - Proposition 65 - Carcinogen

WARNING! This product contains Quartz, a substance known to the State of California to cause cancer.

U.S. - Massachusetts - Rights To Know List (Crystalline silica is listed)

U.S. - New Jersey - Rights to Know List (Crystalline silica is listed)

U.S. - Pennsylvania - RTK (Right to Know) List (Crystalline silica is listed)

SECTION 16: Other information

NFPA health hazard : 1 – Slightly hazardous
NFPA fire hazard : 0 – Materials that will not burn
NFPA reactivity : 0 – Normally stable, even under fire exposure conditions, and are not reactive with water

Full text of H-phrases:



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Carc. 1A	Carcinogenicity Category 1A
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H335	May cause respiratory irritation
H350	May cause cancer

Key to Abbreviations:

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

SDS No. 15078-96-3

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