



## Material: GARNET ABRASIVE

### MATERIAL SAFETY DATA SHEET

#### Section I. Identification of the Substance and of the Company

|                            |   |
|----------------------------|---|
| Product Name               | Garnet Abrasive   |
| Synonyms                   | Almandine and Pyrope Garnet   |
| Relevant identified use(s) | Industrial Abrasive, Blast Cleaning Abrasives, Water Jet Cutting Abrasive                     |
| Distributor:               | <b>GritSablare</b>  |
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#### Section II. Hazards Identification

|               |  |
|---------------|--|
| Other Hazards | <ul style="list-style-type: none"> <li>According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.</li> <li>According to European Directive 1999/45/EC this material is not considered dangerous.</li> </ul> |
|---------------|--|

#### Section III. Mineral Composition

|          |                           |        |
|----------|---------------------------|--------|
| Mixtures | <b>Garnet (Almandite)</b> | 98%    |
|          | <b>Ilmenite</b>           | 1 - 2% |
|          | <b>Quartz</b>             | 0.5%   |
|          | <b>Others</b>             | 0.5%   |

## Section IV. Specifications

### Physical Characteristics

|                 |                        |
|-----------------|------------------------|
| Specific Weight | 4.1 g/cm <sup>3</sup>  |
| Average Bulk    | 2.4 g/cm <sup>3</sup>  |
| Hardness        | 7.5 – 8.0 (Mohs Scale) |

### Other Characteristics

|                        |   |
|------------------------|---|
| Crystal System         | Cubic                                       |
| Habit                  | Dodecadnedron with occasional Trapezohedron |
| Fracture               | Sub-Conchoidal                              |
| Durability             | Very good                                   |
| Free Flow              | 90% Minimum                                 |
| Susceptibility to Acid | None  |
| Moisture Absorption    | Non Hygroscopic, Inert.                     |
| Magnetism              | Very Slightly Magnetic                      |
| Conductivity           | Less than 25 Microsiemens per Meter         |
| Radio Activity         | Not-detectable above background             |
| Pathological Effects   | None  |
| Free Silica Content    | None  |

### Analysis & Characteristics

|  |                  |
|--|------------------|
| Alumina <b>Al<sub>2</sub>O<sub>3</sub></b>                                 | 16.60 – 18.10%   |
| Iron <b>Fe<sub>2</sub>O<sub>3</sub></b>                                    | 27.80 – 29.85%   |
| Silica <b>SiO<sub>2</sub></b>  | 37.20 – 37.90%   |
| Magnesium <b>MgO</b>   | 4.70 – 4.51%     |
| Calcium <b>CaO</b>   | 4.95 – 9.48%     |
| Titanium <b>TiO<sub>2</sub></b>  | 2.5 – 3.1%       |
| Phosphorous <b>P<sub>2</sub>O<sub>5</sub></b>                              | 0.05%            |
| Manganese <b>MnO</b>   | 0.5%             |
| Zircon <b>ZrO<sub>2</sub></b>  | Traces           |
| Chloride Content   | Less than 20 ppm |
| Soluble Salts  | Less than 90 ppm |
| Ph of Aqueous Medium   | 6.93             |
| Gypsum Content   | Nil              |
| Moisture Content   | Less than 0.5%   |
| Carbonate Content  | Traces           |
| Loss on Ignition   | Nil              |
| Metal Content (Specifically Free Iron, Free Copper and Other Heavy Metals) | Traces           |

## Section V. First Aid Measures

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### Inhalation

IF INHALED: Move victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention immediately.

### Skin

In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water.

### Eye

In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

### Ingestion

Get medical attention if symptoms occur.

### Notes to Physician

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section VI. Firefighting Measures

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### Suitable Extinguishing Media

In case of fire, use the same extinguishing methods and substances as for surrounding area of garnet abrasive. No special actions are necessary.

## Section VII. Accidental Release Measures

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### Personal Precautions

Do not walk through spilled material. Wear appropriate Personal Protective Equipment (PPE)

### Emergency Procedures

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.

### Environmental precautions

Avoid run off to waterways and sewers.

### Containment/Clean-up Measures

Avoid generating dust. Sweep or vacuum up material for disposal or recovery.

## Section VIII. Handling and Storage

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### Handling

No special precautions necessary for normal handling of the material. Use only with adequate ventilation. Do not breathe dust. Wear appropriate personal protective equipment, avoid direct contact.

### Storage

No special precautions necessary for normal storage of the material. Keep container/package tightly closed and in a well-ventilated place. Store locked up.

## Section IX. Exposure Controls/Personal Protection

### Engineering Measures / Controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Respiratory

For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

### Eye/Face

Wear safety glasses.

### Skin/Body

Wear protective clothing and gloves.

### Environmental Exposure Controls

Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

## Section X. Physical and Chemical Properties

### Material Description

#### Physical Form

Solid

#### Color

Reddish brown to pink

#### Appearance / Description

Reddish brown to pink grains with no odor

#### Odor

Odorless

### General Properties

#### Boiling Point

Data not available

#### Decomposition Temperature

> 750°C (> 1,382°F)

#### Specific Gravity/Relative Density

4.1 Water = 1

#### Water Solubility

Insoluble

#### Explosive Properties

Non-explosive

#### Melting Point

1,315°C (2,399°F)

#### Bulk Density

2.4 g/cm<sup>3</sup>

### Flammability

#### Flammability (solid, gas)

Non-flammable

## Section XI. Stability and Reactivity

### Reactivity

No dangerous reaction known under conditions of normal use.

### Chemical Stability

Stable

Possibility of hazardous reactions

Hazardous polymerization will not occur

## Section XII. Stability and Reactivity

### Inhalation

- **Acute (Immediate):** Exposure to dust may cause irritation.
- **Chronic (Delayed):** Inhalation of dusts released in the atmosphere containing crystalline silica may cause lung injury or disease including silicosis and/or cancer.

### Skin

- **Acute (Immediate):** May cause abrasions.
- **Chronic (Delayed):** No data available.

### Eye

- **Acute (Immediate):** Exposure to dust may cause irritation.
- **Chronic (Delayed):** No data available.

### Ingestion

- **Acute (Immediate):** No known effects, however ingestion not recommended.
- **Chronic (Delayed):** No data available.

### Carcinogenic Effects

This product contains crystalline silica as cristobalite and/or quartz. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans (IARC Group I). Crystalline Silica is classified as a Known Carcinogen according to NTP.

## Section XIII. Ecological Information

### Toxicity

Material data lacking.

### Persistence and degradability

Material data lacking.

### Bio accumulative potential

Material data lacking.

### Mobility in Soil

Material data lacking.

### Results of PBT and vPvB assessment

No PBT and vPvB assessment has been conducted.

### Other adverse effects

No studies have been found.

## Section XIV. Disposal Considerations

### Product waste

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

### Packaging waste

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section XV. Transport Information

Special precautions for user                      None specified.

## Section XVI. Regulatory Information

SARA Hazard Classifications                      Chronic

Chemical Safety Assessment                      No Chemical Safety Assessment has been carried out

Other Information                      WARNING: This product contains a chemical known to the State of California to cause cancer.

### Disclaimer/Statement of Liability

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