

MATERIAL SAFETY DATA SHEET

Product Identity: Garnet abrasive grains

SECTION I -

Manufactured for: Red Flint Sand and Gravel

Address

615 Short Street
Eau Claire, WI 54702

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SECTION II - CHEMICAL IDENTITY AND INFORMATION ON INGREDIENTS

Specific Chemical Identity:

Garnet is a natural mixture of ALMANDINE GARNET, having a chemical composition of $\text{Fe}_3\text{Al}_2(\text{SiO}_4)_3$ with Mn and Mg in partial substitution for Fe in the formula, and other minerals.

CAS No: 1302-62-1 (Almandine).

Hazardous Ingredients:

The following substances are present and regulated by OSHA and ACGIH limits:

| <u>SUBSTANCE</u> | <u>WT.%</u> | <u>OSHA/ACGIH LIMIT IN USE*</u> |
|--------------------|-------------|---------------------------------|
| Nuisance Dust | N/A | 15 mg/m ³ |
| Respirable Dust | N/A | 5 mg/m ³ |
| Crystalline Silica | <0.5% | 0.10 mg/m ³ |

*If these levels are exceeded, adequate respiratory protection must be employed

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

| | | | |
|-----------------------------|--------------|---|-----------------------------------|
| Melting Point: | Circa 1315°C | Specific Gravity (H₂O=1): | 4.0-4.1 |
| Solubility in Water: | Insoluble | Appearance and Odor: | Deep red to pink color no odor |

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Material is a non-flammable solid

Flammable Limits: N/A **LEL:** N/A **UEL:** N/A

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedures: As appropriate to surrounding fire. Fire fighters should be protected from nuisance dust.

Unusual Fire and Explosion Hazards: None

SECTION V - REACTIVITY DATA

| | |
|---|----------------|
| Stability : | Stable INERT |
| Hazardous Decomposition or Byproducts: | None known |
| Hazardous Polymerization: | Will not Occur |
| Incompatibility (materials to avoid): | None Known |

Conditions to Avoid: None Known. Almandine Garnet is an inert, stable solid needing no special handling in normal use.

SECTION VI - HEALTH HAZARD DATA

| | | | |
|---------------------------|--------------------------|--------------------|-------------------------|
| Route(s) of Entry: | <u>Inhalation</u> | <u>Skin</u> | <u>Ingestion</u> |
| | Possible | None | None |

Health Hazards (acute and chronic due to overexposure)

| | |
|-------------|---|
| Inhalation: | Dust may cause irritation of nasal and respiratory tract or coughing. |
| Eyes: | Dust may cause irritation. |
| Skin: | May cause abrasions. Dust may cause irritation |
| Ingestion: | No known effects, however ingestion not recommended. |

| | | | |
|---------------------------------|-------------------|-------------------------------|--------------------------------|
| Carcinogenicity | <u>NTP</u> | <u>IARC Monographs</u> | <u>OSHA Regulations</u> |
| Crystalline Silica(quartz+A121) | - | No. 42 | 0.1 mg/m ³ |
| Contains less than 0.5% | - | N/A | |

Radioactivity

This product contains very low levels of naturally occurring radioactive elements of the uranium and thorium series, as do many mineral products. Primary exposure potential is internal via inhaled dust. This material is exempt from NRC regulations for source material per 10CFR40 since it is A131 below 0.05% uranium/thorium by weight.

Medical Conditions Generally Aggravated by Exposure

Chronic bronchitis, emphysema and other lung diseases may be aggravated by exposure to nuisance dust.

Emergency and First Aid Procedures

| | |
|---------------|---|
| EYE CONTACT: | Wash eyes with water to flush out dust particles. |
| SKIN CONTACT: | Wash affected area with soap and water. |
| INHALATION: | Remove from source of dust and obtain other medical assistance. |
| INGESTION: | Obtain medical assistance, if needed. |

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE**Steps to be Taken in Case Material is Released or Spilled**

NO SPECIAL PRECAUTIONS ARE NECESSARY. Sweep or vacuum material for disposal. Prevent generation of dust during clean up.

Waste Disposal Methods

Follow local, state and federal guidelines for disposal of inert solid waste. MATERIAL CONTAMINATED IN USE MAY REQUIRE SPECIAL HANDLING.

Precautions to be Taken in Handling and Storage

NONE - Use good housekeeping practices to reduce dust; use approved hand, eye and respiratory protection when handling material.

Other Precautions

Use material ONLY for the purposes intended and incorporate methods of dust control to maintain airborne dust within federal or local TLV limits.

SECTION VIII - CONTROL MEASURES

Respiratory Protection: NIOSH/MSHA approved filters and air supplied hoods for blasters.

Ventilation: Yes
Local Exhaust: Use when blast cleaning
Mechanical (general): Meet dust TLV
Special: None
Other: None

Protective Gloves: Leather or equivalent - in use

Eye Protection: Safety glasses with side shields

Other Protective Clothing or Equipment:

Hearing protection when working near blast cleaning operations

Working/Hygienic Practices: Maintain a clean and safe work environment and monitor work practices.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Some information presented in this MSDS was obtained from source other than direct test data on the product. The information provided is believed to be accurate and represents the best information currently available to Red Flint Sand & Gravel. However, Red Flint makes no warranty of merchantability or other warranties, express or implied, with respect to such information and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.