OREGON RESOURCES CORPORATION

MATERIAL SAFETY DATA SHEET

GARNET SAND

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Identification

Product Name: Garnet
Other Names: garnet abrasive, almandine garnet, almandite garnet
CAS Number: 1302-62-1
Dangerous Goods Class Subsidiary Risk: None Allocated
Hazchem Code: No Hazchem Code allocated
Recommended Uses: For use in high pressure water cutting applications.

Supplier Identification

Company: Oregon Resources Corporation
63776 Mullen Road
Coos Bay, OR, 97420
USA
541 - 266 - 0875 (phone)
541 - 266 - 0858 (fax)
Emergency (24 hr): Pete Zagar, 541 – 217 - 4696

2. HAZARDS IDENTIFICATION

This material is a natural mixture of almandine garnet – Fe3Al2 (SiO2) with mg and mn in partial substitution for Fe in the formula, and other trace minerals. The following substances are present and regulated by OSHA or ACGIH limits:

Chemical Name	CAS Number	Proportion (weight %)
Almandine Garnet Fe3Al2 (SiO4)3	1302-62-1	Greater than 96%
Ilmenite FeTiO3		Less than 2%
Calcium Carbonate CaCO3		Less than 2%
Zircon ZrSiO4		Less than 0.5%
Quartz (crystalline Silica) SiO2	14808-60-7	Less than 0.5%

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Reddish brown to pink grains
Particle Shape: Sub-rounded to angular
Odor: Not Applicable
Water Solubility: Insoluble
Hardness: 7.5 – 8.0 Mohs

Avg. Bulk Density: 2.4g/cm3 (150 lbs/ft3)
Specific Gravity: 4.1g/cm3
Melting Point: 1,250 degrees C
Reactivity: Inert

4. FIRE AND EXPLOSION HAZARD

Flash Point:	Material is a non-flammable solid
Flash Point Method:	Not Applicable
Flammable Limits:	Not Applicable
LEL:	Not Applicable
UEL:	Not Applicable
Flammability Class:	Not Applicable
Extinguishing Media:	Use extinguishing media appropriate for the 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
Stability:	Stable
Polymerization:	Will not occur
Chemical Incompatibilities:	None known
Hazardous Decomposition Products:	None known

5. HEALTH HAZARD INFORMATION

Health Hazards (acute and chronic):	None known. Use care to limit exposure to nuisance dust.
Carcinogenicity:	Crystalline silica (quartz) – contains less than 0.5%.
Inhalation:	Dust may cause irritation of the nasal and respiratory tract.
Skin:	May cause abrasions.
Ingestion:	None known, however, ingestion is not recommended.
Medical Conditions Aggravated by Exposure:	Chronic bronchitis, emphysema and other lung diseases May be aggravated by exposure to nuisance dust.

EMERGENCY FIRST AID PROCEDURES

Inhalation:	Remove to fresh air, administer oxygen if breathing is difficult.
Eye Contact:	Wash eyes with water to flush out particles, obtain medical assistance if needed.
Skin Contact:	Wash affected area with soap and water.
Ingestion:	Obtain first aid or medical assistance, if needed.

6. PRECAUTIONS FOR SAFE HANDLING AND USE

Spill/Leak Procedures:	Sweep or vacuum material for disposal.
Disposal:	Follow local, State and Federal guidelines for disposal of inert Solid waste. **MATERIAL CONTAMINATED IN USE MAY REQUIRE SPECIAL HANDLING.**
Handling/Storage:	None – use good housekeeping practices to reduce dust; use Approved hand, eye and respiratory protection when handling.
Other Precautions:	Use materials only for the purposes intended, and incorporate Methods of dust control to maintain airborne dust within Federal Or local TLV limits.
Exposure Standards:	Nuisance dust levels should be kept below 10 mg/m3. If this level Is exceeded respiratory protection is required.

Engineering Controls:	Maintain ventilation and/or dust collection to reduce dust exposure to near-by workers. Maintain a clean and safe work environment and monitor effectiveness.

7. CONTROL MEASURES

Ventilation:	Provide sufficient local exhaust or mechanical (general) ventilation to maintain dust exposure limit below threshold limit value (TLV).
Respiratory:	NIOSH/MSHA approved filters and supplied air hoods/helmets for blasters.
Eye Protection:	Safety glasses with side shields, goggles or face shield.
Protective Gloves:	Leather or equivalent

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