



# SUPER GARNET MATERIAL SAFETY DATA SHEET

V V MINERAL  
LARGEST EXPORTER OF GARNET

## SECTION: I – IDENTIFICATION

Product Type	: Almandine
Product Name	: VVM Super Garnet
Grade Name & Use	: Grade: A+, A - Water Filtration Grade: B, C, D+- Blasting Grade: D, D+, E - Water Jet Cutting
Manufacture's Name	: V.V.MINERAL 17/C Keeraikaranthattu, Tisaiyanvilai-627 657, Tirunelveli District, Tamil Nadu, India.
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## Section: II – CHEMICAL COMPOSITION / MINERALS

Super garnet is a natural mixture of Almandine garnet and is collected inland as well as in seashore areas.

Almandine garnet purity and other mixed trace minerals are given below.

Minerals / Chemical Composition	CAS. NO.	Proportion by Weight
Almandine Garnet ( $\text{Fe}_3\text{Al}_2(\text{SiO}_4)_3$ )	1302-62-1	> 98.00 %
Ilmenite ( $\text{FeTiO}_3$ )	103170-28-1	< 01.50 %
Shell ( $\text{CaCO}_3$ )	471-31-1	< 00.20 %
Quartz ( $\text{SiO}_2$ )	149040-68-2	< 00.50 %
Zircon ( $\text{ZrSiO}_4$ )	14808-60-7	< 00.20 %

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## SECTION: III - HAZARDS INFORMATION

Natural mineral hence Non-Hazardous and Non-Dangerous cargo according to criterion NOHSC : 1008(2004).

## SECTION: IV - HEALTH HAZARDS & FIRST AID PROCEDURES

**Swallowed:** Non toxic. There are no known adverse health effects resulting from minimal accidental ingestion likely to occur during normal handling by workers. Absorption of larger amounts may cause irritation due to abrasiveness. First aid is unlikely to be required, but if necessary wash mouth with clean water and ensure it is not swallowed. Contact a qualified medical practitioner immediately if any problems develop.

**Eye:** Materials and dust contact can cause eye irritation due to abrasiveness. Wash immediately with lots of clean water for at least 10 minutes or until the abrasive is removed. Contact a qualified medical practitioner immediately if any problems develop.

**Skin:** There are no known adverse health effects from skin contact that may happen during normal handling. Contact a qualified medical practitioner, if any problems develop. Contact under pressure, during blasting will damage skin. Gently remove the contaminated clothing to avoid dust, and then wash the skin. If the irritation is persists, contact a qualified medical practitioner immediately.

**Inhaled:** It is normally regarded as general nuisance dust, but can cause lung irritation if inhaled in high concentrations. Shift to an area with fresh air and blow nose to remove particulates from nasal passages. Contact qualified medical practitioner immediately if any problems persists.

## SECTION - V - STABILITY & REACTIVITY DATA

Stability	- Stable
Polymerization	- Cannot occur
Incompatibility	- None Known
Hazardous Reactions	- None Known
Decomposition	- Not applicable

## SECTION –VI - FIRE AND EXPLOSION HAZARD DATA

Flammability	- Non-flammable solid
Flash Point	- Not applicable
General Hazard	- Non-flammable and does not support burning
LEL	- Not applicable
UEL	- Not applicable
Extinguishing Media	- Use appropriate extinguishing media for the surrounding fire.

## SECTION – VII – PHYSICAL & CHEMICAL CHARACTERISTICS

### a) Physical Characteristics: -

Melting Point	- 1320 °C
Specific Gravity	- 4.0 to 4.5
Bulk Density	- 2.4 g/cm <sup>3</sup>
Solubility in Water	- Insoluble
Acid Solubility	- < 0.5 %
Appearances & Odour	- Pink to red & No odor
Physical State	- Solid

Viscosity	- Not Applicable
Boiling Point	- Not Applicable
Vapour Pressure	- Not Applicable
pH	- Neutral
Hardness	- > 7 Moh scale
Free Metal	- < 0.01 %
Water Soluble Chloride	- < 25 ppm
Conductivity	- < 15 mS/m
Moisture	- < 0.20 % (Dry solid)
Grade Shape	- Sub angular
Grain Size	- 90 micron to 1700 micron

#### b) Chemical Composition:-

SiO <sub>2</sub>	- 35.00 %
Fe <sub>2</sub> O <sub>3</sub>	- 33.00 %
Al <sub>2</sub> O <sub>3</sub>	- 21.00 %
MgO	- 07.30 %
CaO	- 01.50 %
TiO <sub>2</sub>	- 01.00 %
Cr <sub>2</sub> O <sub>3</sub>	- 00.05 %
MnO	- 00.50 %
P <sub>2</sub> O <sub>5</sub>	- 00.04 %

## SECTION – VIII – PERSONAL PROTECTION

Crystalline silica	- 0.10 mg/m <sup>3</sup>
Repairable dust	- 5 mg/m <sup>3</sup>
Nuisance dust	- 15 mg/m <sup>3</sup>

If these levels are exceeded respiratory protection must be applied

**Personal Protection:** Safety glasses, Gloves and Nose mask. Maintain a clean and safe work place and monitor effectiveness.

**Engineering controls:** Dust collector and ventilation requirements will depend on handling methods and the amount in use, but should be sufficient to maintain dust level exposure limit. Points of dust generation such as conveyor and hopper discharges should be equipped with an effective extraction system.

## SECTION – IX – HANDLING AND STORAGE

Adopt good house keeping practices to reduce dust. Use approved hand, eye and respiratory protection devices while the material handling. No special safety measures required. Storage place should be ventilated and dust generation minimized when handling.

## SECTION – X – CONTROL MEASURES

Respiratory Protection (Specify type)

NIOSH / MSHA – Approved filters and air supplied goods for blasters

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

**Protection Gloves:** Leather gloves, caps and paper mask.

**Eye Protection:** Safety glasses with side shields, approved by central.

**Other Protective Clothing or Equipment:** Normal safety protection is adopted.

**Work / Hygienic Practices:** Keep a clean and safe work place and monitor work practices.

## SECTION – XI – TRANSPORT

No special precautions, although it is advised to keep bags closed and covered using tarpaulin or any sheet while transporting to avoid dust generation.

## SECTION – XII – DISPOSAL PROCEDURES

As per the local, state and central rules for the disposal of inert solid waste. Material contaminated in use may require special handling and disposal.

## SECTION – XIII - REGULATORY INFORMATION

This product is a natural and dry mineral and the material is collected from inland or seashore areas. It is non-hazardous and non-dangerous cargo and does not require any special precautions.

## SECTION – XIV – ENVIRONMENTAL INFORMATION

This material is a natural mineral with no known ecotoxicity. It is insoluble in water and a very heavy hence should not contaminate waterways and food materials. It also does not pose any danger to animal and plant life.

## SECTION – XV – TOXIC INFORMATION

This product is non-toxic with no known sensitive health effects relating to human exposure.

## SECTION – XVI – SPECIAL COMMENTS & PRECAUTIONS

The above said information is believed to be accurate, but is not warranted with respect to the accuracy of the information or recommendations. As per the work safety rule, each and every user should reconsider the above information while using the product.

### Abbreviations

Mg/m<sup>3</sup> - Milligram per cubic metre

NOHSC - National Occupational Health & Safety Commission

TLV - Threshold Limit Value

mS/m - milli Siemens per meter

ppm - Parts per million

g/cm<sup>3</sup> - Gram per cubic centimeter

