

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product identification

Product names : Garnet
Other names : Garnet

Company Identification

Company : MWT Services India Pvt Ltd.
Address : Block No-1, Phase-II,
Visakhapatnam Special Economic zone, Duvvada-530049, India.
Telephone Number : +91-891-2566263
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2. COMPOSITION /INFORMATION INGREDIENTS

Typical Analysis – Mineralogical

Garnet - > 90 %
Ilmenite - 2 - 3 %
Sillimanite - 2 – 4 %
Quartz - 0.5 – 0.8 %
Others - 1 – 2 %

Typical Analysis – Chemical

SiO₂ - 36 – 38 %
Al₂O₃ - 20 - 22 %

Fe₂O₃ - 31 - 33 %

TiO₂ - 0.1 – 0.2 %

CaO - 2 – 4 %

MgO - 7 - 9 %

LOI - 0.01 – 0.5 %

Size Analysis

| Size (US Mesh) | Retention (%) |
|----------------|---------------|
| + 30 | - 1 – 3 % |
| + 40 | - 5 – 10 % |
| + 50 | - 40 - 45 % |
| + 60 | - 10 - 15 % |
| + 70 | - 30 - 35 % |
| + 80 | - 0.5 – 1 % |
| + 100 | - 4 - 5 % |
| + 120 | - 0.5 - 1 % |
| - 120 | - Traces. |

3. HAZARDS IDENTIFICATION

| | |
|------------|--|
| Eye | Solid or dust is moderate eye irritant due to its abrasive action. |
| Inhalation | May be regarded as nuisance dust but can be irritating if inhaled at high concentrations and may cause symptoms such as coughing and sneezing. The TLV (TWA) for occupational exposure nominate 10 mg/ m ³ as total dust and 5 mg/m ³ as a respirable dust. |
| Skin | Non hazardous. |
| Ingestion | There are no known hazards caused by accidental ingestion of small amount such as might occur during normal handling. Ingestion of larger quantities might cause irritation of the gastro-intestinal system as a result of abrasive action. |
| Radiation | Garnet contains trace (ppm level) amount of the naturally occurring radioactive substances such as Uranium & Thorium. However the concentration of the Uranium and Thorium are not sufficient for garnet to be classified as a radioactive substance under International Atomic Energy Agency Regulation for the safe transport of radioactive material. |

4. FIRST AID MEASURES

| | |
|------------|---|
| Eye | Hold eye as open and rinse continuously with a gentle stream of clean running water for at least 15 minutes. Seek medical attention if any irritation or soreness of eye persists. |
| Inhalation | Remove from source of exposure into fresh air and seek medical attention if any symptoms persist. |
| Skin | No specific first aid is required for skin contact. Remove clothing & wash skin with soap and /or water. Seek medical attention if any irritation or soreness of the skin develops. |
| Ingestion | First aid is unlikely to be required but if necessary rinse mouth with water ensuring that mouth wash is not swallowed and seek medical attention as a precautionary measure if large amounts have been ingested. |

5. FIRE FIGHTING MEASURES

This is a non-combustible material. Use whatever protective equipment and extinguishing agent are suitable for the primary cause of fire.

6. ACCIDENTAL RELEASE MEASURES

Wear safety equipment for normal handling, avoid generating dust, sweep or vacuum up, recycle/ reuse or dispose to landfill subject to local regulations. Transport is not regulated and no specific storage requirements.

7. HANDLING AND STORAGE

| | |
|----------------|--|
| Storage | Transport is not regulated and there is no specific storage requirement but storage should be designed to minimize creation of the dust. |
| Spillage | Wear protective equipment as specified for handling. Sweep or vacuum up and reuse or dispose. Avoid generation of dust. |
| Waste disposal | Disposal to land fill such a way as to prevent generation of dust and subjected to local regulations. |
| Fire explosion | Incombustible |

| | |
|--------------------|---|
| Fire extinguishing | Use whatever protective equipments and extinguishing agent that are suitable for primary cause of fire. |
|--------------------|---|

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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|-----------------------|---|
| Ventilation | Ventilation requirement will depend upon handling methods and amount in use but extraction or make up air may be required to minimize dust layers/levels below exposure limits. |
| Protective equipments | Safety goggles or glasses. A dust type respirator may be required to prevent ingestion. |
| TLV (TWA) | 10 mg/m ³ as total dust. |
| TLV (TWA) | 5 mg/m ³ as total dust. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|-------------------|---|-----------------------------|
| Specific Gravity | - | 4.10 g/cm ³ |
| Hardness | - | 7.5 – 8.00 (MOH scale) Bulk |
| Density | - | 2.40 gm/cm ³ |
| Conductivity | - | < 10 Micro Siemens/meter |
| Soluble Chloride | - | Less than 20 ppm |
| Carbonate content | - | Free |
| Metal content | - | Below deductible level |
| pH | - | 7.00 |

10. STABILITY AND REACTIVITY

| | | |
|--------------------|---|---------------------------------|
| Chemical stability | : | Stable |
| Reactivity | : | Inert |
| Incompatibilities | : | None in normal or expected use. |
| Decomposition | : | Decomposition will not occur |

11. TOXICOLOGICAL INFORMATION

Non Toxic

12. ECOLOGICAL INFORMATION

The matter is unlikely to cause any environmental damage if handled, used and disposed off in the approved manner. It is insoluble in water and unlikely to contaminate waterways or enter the food chains.

13. DISPOSAL CONSIDERATIONS

This is a Non hazardous material; disposal must be in accordance with federal state and local regulations. Consult and comply with current regulations. If approved, may be transferred to an approved landfill site.

14. TRANSPORT INFORMATION

Transport is not regulated & may be transported as a non-hazardous material. Trucks transporting/carrying bulk material should be covered to prevent dust generation.

15. REGULATORY INFORMATION

Labeling: May be required in the USA if quartz exceeds 0.10 %.

Radiological protection: The regulations pertaining to radiological protection vary from country to country. It is the responsibility of the buyer to ensure that those are met in accordance with his/her country law.

16. OTHER INFORMATION

MSDS data issued MWT Services India Pvt Ltd.
+91-891-2566263

Disclaimer

The above information is intended to give general health and safety guidance on the storage and transport of the substance or product to which it relates. The requirement or recommendation of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product shall take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication, and will be undated as and when appropriate.

For further information on product, please contact MWT Services India Pvt Ltd.