MATERIAL SAFETY DATE SHEET – RED GARNET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product names	:	Garnet Sand
Other names	:	Garnet (Almandine) –80 Mesh

Company Identification

Company	:	MARTAPAD INTERNATIONAL
	:	Navarra 1 08201 Barberà del Vallés
		Barcelona (SPAIN)
Telephone Number	:	+34 930045523
Email address	:	comercial@martapad.com

2. COMPOSITION/INFORMATION INGREDIENTS

POISON SCHEDULE	None Allocated	HAS CODE:	None Allocated
UN NO. :	None Allocated	CLASS :	None Allocated

Typical Analysis – Mineralogical

Garnet : 97.0%	Ilmenite : 2.3%	Monazite : 0.3%	Rutile : 0.2% (approx.)
Zircon : 0.2%	Sillimanite : 0.4%	Quartz : 0.2%	Others : 2.4%

Typical Analysis – Chemical

Chemical Name	CAS Number	Proportion (%)
Al_2O_3	1344-28-1	19.8
FeO	1345-25-1	27.9
Fe_2O_3	1309-37-1	3.5
SiO_2	14808-60-7	36.3
TiO_2	13463-67-7	1.3
CaO	1305-78-8	2.8
MgO	1309-48-4	6.8
Cr_2O_3	1333-82-0	0.02
ZrO_2	1314-23-4	-
P_2O_5	1314-56-3	-
Th+U	7440-29-1 & 7440-61-1	-

3. HAZARDS INDENTIFICATION

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 concentration and may cause symptoms such as coughing and sneezing. The TLV(TWA) for occupation exposure nominate 10 mg/m^3 as total dust and $5mg/m^3$ as 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 substance 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 (IAEA) Regulation for the safe transport of radioactive material

4. FIRST AID MEASURES

Eye	Hold eye as open and rinse continuously with a gently 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 fir.

6. ACCIENTAL RELEASE MEASURES:

Wear safety equipment for normal handling, avoid generating dust, sweep or vacuum up, recycle/reuse or dispose to landfill subject to locate 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 equipment and extinguishing agent are suitable for primary cause of fire

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 equipment	Safety goggles or glasses. A dust type respirator/levels below exposure limits.
TLV (TWA)	10 mg/m^3 as total dust
TLV (TWA)	5 mg/m^3 as respirable dust

9. PHYSICAL AND CHEMICAL PROPERTIES:

Chemical Formula	$Fe_2 AL_2 (SiO_4)_3$	Flash Point	None
LOI	Not available	Explosion limit	Not pertinent
Colour	Rose Red	Solubility(water)	Insoluble
Odour	Odourless	Vapour Pressure	Not pertinent
Melting point	1315^oC	Vapour density	Not available
Evaporation rate	Not pertinent	Hardness	6.5-7.5 in Moh's Scale
Specific gravity	4.25	Crystal system	Cubic
Bulk density	2200-2300 kg/m^3	%Volatiles	None
pH	6.0 – 7.0	Flammability	Non Combustible
Grain size	75-300 microns		

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 CONSIDERATION

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 o.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.

Revision Number	:	1
Date of Issue	:	08/06/2017
Replaces	:	None.