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SILLIMANITE SAND – MSDS

(Materials Safety Data Sheet)

SECTION: I – IDENTIFICATION

Product Name	: Sillimanite Sand
Application	: Use in refractory & glass industry
Producer Name	: Dakshinak Minerals LLP
Telephone	:
E-mail	: sales@dakshinak.com
Website	: www.dakshinak.com

SECTION: II – MINERALS COMPOSITION

Sillimanite sand is a natural mineral sand collected from inland and seashore areas. It is known for its purity and contains other mixed trace minerals. It is mainly used in the refractory and glass industries.

Minerals / Chemical Composition	CAS NO.	Proportion by Weight
Sillimanite (Al_2O_3)	12141-45-6	> 96.00 %
Zircon ($\text{ZrO}_2 + \text{HfO}_2$)	14940-68-2	< 02.00 %
Rutile (TiO_2)	1317-80-2	< 01.00 %
Free Quartz / Silica	14808-60-7	< 01.00 %

SECTION: III - HAZARDS INFORMATION

Sillimanite sand is non-hazardous and non-dangerous cargo according to criterion NOHSC: 1008 (2004), since it is natural mineral available in inland and seashore deposit naturally.

SECTION: IV - HEALTH HAZARDS & FIRST AID PROCEDURES

Swallowed: Non-toxic. There are no known health hazard effects resulting from accidental ingestion as that may occur while the workers' normal handling. Absorbing larger amounts may cause irritation due to abrasiveness. First aid is unlikely to be required, but if necessary wash mouth with water ensuring the mouthwash is not swallowed. Contact medical consultant, if any problems develop.

Eye: Materials and dust contact can cause eye irritation due to abrasiveness. Rinse thoroughly with plenty of clean water for at least 10 minutes or until the abrasive is removed. Also, can contact medical consultant, if any problems develop.

Skin: There are no known health effects from skin contact that may happen during normal handling. Contact medical consultant, if any problems develop. Also, while blasting the material contact with skin under pressure will damage skin.

Gently remove the contaminated clothing to avoid dust, then wash the skin. If the irritation persists, contact medical advice.

Inhaled: Normally regarded as general nuisance dust, but can be irritating if inhaled in high concentration may cause lung irritation. Shift to fresh air and blow nose to remove particulates from nasal passages. Contact medical consultant, if any problems found.

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	-	1840 °C
Specific gravity	-	3.1 to 3.2
Bulk density	-	1.8
Solubility in water	-	Insoluble
Acid solubility	-	< 0.5 %
Appearance & Odour	-	White, Yellow, No Odour
Physical state	-	Solid
Viscosity	-	Not Applicable
Boiling point	-	Not Applicable
Vapour Pressure	-	Not Applicable
PH	-	Neutral
Hardness	-	> 7 Moh's 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	-	50 mesh to 180 mesh

b) Composition:-

Al ₂ O ₃	-	Min 56.5 %
SiO ₂	-	32 - 39 %
Fe ₂ O ₃	-	Max 1.25 %
TiO ₂	-	Max 0.70 %
ZrO ₂ + HfO ₂	-	Max 3.50 %
CaO	-	Max 0.90 %
P ₂ O ₅	-	Max 0.50 %
MgO	-	Max 0.03 %
Cr ₂ O ₃	-	Max 0.08 %
CeO ₂	-	Max 0.03 %
U	-	Max 25 ppm
Th	-	Max 50 ppm

SECTION – VIII – PERSONAL PROTECTION

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

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 levels below exposure limits. 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 housekeeping practices to reduce dust. Use approved hand, eye and respiratory protection devices while handling the material. 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 hoods 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 masks.

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 workplace and monitor work practices

SECTION – XI – TRANSPORT INFORMATION

IATA : NIL
ADR : NIL
IMO : NIL
UN.NO. : NIL

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 natural and dry mineral and the material collected from inland and seashore. 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, because it is very heavy material and it should not contaminate waterways and food materials. Also it is not dangerous to animals and plants.

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 information is intended to give general health and safety guidance on the storage and transport of the substance or product to which it relates, and it 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. 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.