

**Refractory Engineers**  
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**SECTION I - MATERIAL IDENTIFICATION**

Trade Name and Synonyms: **Plibrico HyRATE 85-S Special** Product Number: 10046  
 $Al_2O_3$  - 80.7 %  $SiO_2$  - 13.6 %  
 Chemical Name and Synonyms: Refractory Plastic Fireclay  
 Chemical/Mineral Family: Alumino Silicate Manufactureres Code I.D. : L - 2415

**SECTION II- HAZARDOUS INGREDIENTS**

Ingredients (checked)	General Chemical Formula	Percent By Weight	TLV (ACGIH)	C.A.S. No.
<input checked="" type="checkbox"/> Quartz***	$SiO_2$	4.25	0.025 mg/m <sup>3</sup> (respirable dust)	14808-60-7
<input checked="" type="checkbox"/> Cristobalite***	$SiO_2$	0.57	0.025 mg/m <sup>3</sup> (respirable dust)	1446446-1
<input type="checkbox"/> Amorphous Silica***	$SiO_2$		2 mg/m <sup>3</sup> (respirable dust)	69012-64-2
<input type="checkbox"/> Fused Silica***	$SiO_2$		0.1 mg/m <sup>3</sup> (respirable dust)	60676-86-0
<input type="checkbox"/> Zirconium Silicate***	$ZrSiO_4$		5 mg/m <sup>3</sup>	14940-68-2
<input type="checkbox"/> Graphite	C		2.5 mg/m <sup>3</sup>	7782-42-5
<input checked="" type="checkbox"/> Aluminum Phosphate	$AlH_3PO_4$	1 - 5	2 mg/m <sup>3</sup>	7784-30-7
<input type="checkbox"/> Silicon Carbide	SiC		10 mg/m <sup>3</sup> (respirable dust)	409-21-2
<input type="checkbox"/> Ceramic Fiber	N/A		5 mg/m <sup>3</sup> (respirable dust), 15mg/m <sup>3</sup> (total), 0.5 fiber/ cc	142844-00-6

Special Notes: \*\*\* Greater amounts of Quartz and Cristobalite may be formed after firing.  
 Major portion of the crystalline silica present in the product as manufactured is not fine enough to normally be considered respirable.

**SECTION III- PHYSICAL DATA**

Boiling Point ( ): N/A Specific Gravity: 3.3 pH: 2 - 3  
 Solubility in Water: <6% Percent Volatile by Volume (%): N/A (50% Solution)  
 Appearance and Odor: Granular aggregate & fine solid mix, off white in color

**SECTION IV- FIRE AND EXPLOSION HAZARD DATA**

Unusual Fire and Explosive Hazards: Improper mixing and bake-out of materials may result in steam spalling during initial heating. Refer to mixing instructions and bake-out schedules for proper procedures.

**SECTION V- REACTIVITY DATA**

Stability: Stable Hazardous Polymerization: May not occur  
 Incompatibility: Materials to avoid: N/A Hazardous Decomposition: N/A

**SECTION VI- HEALTH HAZARD DATA**

Primary Route of Entry: Inhalation, Ingestion, Skin Contact

Effects of overexposure:

- 1. Acute: Exposure to nuisance dust may cause temporary irritation or discomfort to skin, eyes, nose, throat or lungs and may aggravate bronchial disorders.
- 2. Chronic: Long term inhalation of respirable quartz, cristobalite, fused silica and/or amorphous silica may cause silicosis (delayed lung injury) and other respiratory disorders.
- 3. Prolonged contact with skin may cause irritation.
- 4. IARC: sufficient evidence for the carcinogenicity of crystalline silica to humans. (Group 1)
  
- 5. Canadian WHMIS : D2A

Emergency and first aid procedures:

Rinse affected areas with water. For eye contact, flush with water and get medical attention

For excessive inhalation - remove to fresh air.

For skin contact - wash with soap and water.

If irritation persists, call a physician.

**SECTION VII- SPILL OR LEAK PROCEDURES**

Steps to be taken in case material is released or spilled:

Use routine housekeeping procedures, avoid dusting, collect material in closed containers or bags.

Waste Disposal Method:

According to the EPA (40CFR 261.3) wastes are not hazardous wastes. Wastes may be disposed of in a landfill, however, in accordance with federal, state, and local regulations.

**SECTION VIII - SPECIAL PROTECTION INFORMATION**

Respiratory Protection:

Good ventilation should be provided if dust is created when working with materials. Used material, which is being removed, should be dampened to reduce dust. In addition, when dust is present, workers should employ respirator protection. Recommended: NIOSH approved respirator for dusts and mists, including silica, in compliance with OSHA STD 29.CFR1910.134.

Ventilation:

Local and Mechanical: follow OSHA STD 29 CFR 1910.94.

Protection Gloves: Protective gloves recommended.

Eye Protection: Safety glasses/goggles.

Other Protective Equipment: As required to meet applicable OSHA standards.

**SECTION IX - TRANSPORT INFORMATION**

DOT Proper Shipping Name (29 CFR 172.101): Not Regulated

DOT Hazard Class (29 CFR 172.101): Not Regulated

UN/NA Code (49 CFR 172.101): Not applicable

DOT Labels Required (49 CFR 172.101): Not applicable

DOT Placards Required (49 CFR 172.504): Not applicable

Land Transport ADR/RID (cross-border): Not regulated

Maritime Transport IMDG: Not regulated

Air Transport ICAO-TI and IATA-DGR: Not regulated

**SECTION X - SPECIAL PRECAUTIONS**

Precautions to be taken in handling and storage: To ensure product quality, store in a dry place.

Additional Notes: The data provided herein is believed to be correct and is obtained from sources believed to be reliable. Plibrico Company shall not be liable for injury arising by either misuse of materials, or failure to follow safety procedures as outlined in the material safety data sheet.