

Insulating Firebrick

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PLIBRICO COMPANY L.L.C**Safety Data Sheet**

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**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**Product Names: **Pli-Bric IFB 23, 26, 28, 30, Insulating Firebrick**

Product Type: Refractory Brick

Supplier: Plibrico Company LLC

Manufacturer: BNZ Materials, Inc.

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SECTION 2 – HAZARDOUS IDENTIFICATION

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

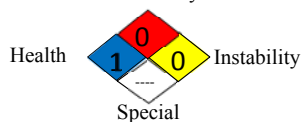
Classification of the substance or mixture: CARCINOGENICITY - Category 1A

SPECIFIC TARGET ORGAN TOXICITY (STOT) REPEATED EXPOSURE – Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 0%

GHS label elements**Hazard pictogram:****NFPA Rating** scale 0-4

Flammability

**HMIS**

HEALTH	2
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	E

Signal word: Danger**Hazard statements: If dust is present:**

Causes damage to lungs through prolonged or repeated exposure.

May cause cancer.

OSHA has determined the acceptable 8 hour exposure level for Respirable Crystalline Silica to be: 10 mg/m³ □ (%SiO₂ + 2)**Precautionary statements****Prevention: If dust is present:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves, protective clothing, eye protection, face protection

Do not breathe dust.

Wash thoroughly after handling.

Do not eat, drink, or smoke while using this product.

Response: If exposed, concerned, or feel unwell: Get medical advice/attention.**Storage:** Store locked up.**Disposal:** Dispose of contents and container in accordance with all local, regional, national and international regulations.**Supplementary:** Use precautions if exposure exceeds the established OSHA limits.**Information:** This material does not present a hazard unless dust is generated from cutting, grinding, or other operations.**Hazards not otherwise Classified:** None known

SECTION 3 – HAZARDOUS INGREDIENTS**Substance or mixture:** Mixture**Other means of identification:** Insulating Fire Brick, IFB**CAS number:** Mixture**Product code:** Pli-Bric IFB 23, 26, 28, 30

Ingredient name	CAS number	%
Ceramic Matrix	Proprietary	60-98
Crystalline Silica	14808-60-7	0.1 – 46
Crystalline Silica (cristobalite)	14464-46-1	0.1 – 22

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

OSHA has determined the acceptable 8 hour exposure level for Respirable Crystalline Silica to be: 10 mg/m³ / (%SiO₂ + 2)

SECTION 4 - FIRST AID MEASURES**Description of necessary first aid measures****Inhalation:** Remove victim to fresh air.

Drink plenty of water and blow nose to evacuate remaining dust.

If coughing or irritation persist seek medical attention.

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Rinse for at least 15 minutes.

If irritation persists seek medical attention.

Skin contact: Gently wash with plenty of soap and water.

If irritation persists seek medical attention.

Ingestion Emergency procedures not normally required.

If prolonged irritation to gastrointestinal tract or mouth persist seek medical attention.

Most important symptoms/effects, acute and delayed**Potential acute health effects****Inhalation:** Respirable airborne particles may cause temporary irritation to the lungs and upper respiratory system.**Skin contact:** Prolonged exposure may cause dryness or irritation to the skin.**Eye contact:** Will cause mechanical irritation to the eyes. May cause moderate to severe eye irritation and dryness.**Ingestion:** May cause irritation to gastrointestinal tract or mouth.**Over-exposure signs/symptoms****Inhalation:** Adverse symptoms may include the following: Irritation**Eye contact:** Adverse symptoms may include the following: Irritation, Dryness**Skin contact:** Adverse symptoms may include the following: Irritation, Dryness**Ingestion:** Adverse symptoms may include the following: Irritation, Stomach pains**Indication of immediate medical attention and special treatment needed, if necessary****Notes to physician:** Medical conditions which may be aggravated by exposure include dry skin, dermatitis, and pre-existing lung conditions such as bronchitis, emphysema, and asthma.**Specific treatments:** No specific treatment.**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. Wear a suitable NIOSH-approved dust mask if airborne dust is present. Wash contaminated clothing before re-use.

SECTION 5 - FIRE FIGHTING MEASURES

Specific hazards arising from the chemical:

None known other than those represented elsewhere in this SDS.

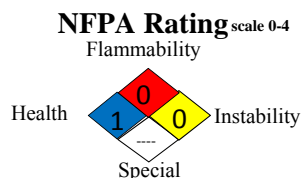
Hazardous thermal decomposition products: Material will not burn.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

No action shall be taken involving any personal risk or without suitable training.

No special firefighting equipment is necessary.

Special protective equipment for fire-fighters: Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency Personnel: No action shall be taken involving any personal risk or without suitable training.

Evacuate surrounding areas.

Keep unnecessary and unprotected personnel from entering.

Provide adequate ventilation.

Wear appropriate respirator when ventilation is inadequate.

Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: This material does not pose a significant threat to the environment.

Avoid dispersion of material and runoff and contact with waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, or air)

Methods and materials for containment and cleaning up:

Small spill: Stop source of spill.

Avoid creating airborne dust

Use dust suppressant as necessary

Place material into closed waste disposal container.

Any sweeper or vacuum should be equipped with High Efficiency Particulate (HEPA) filter.

Dispose of using a licensed waste disposal contractor.

Large spill: Stop source of spill.

Avoid creating airborne dust

Use dust suppressant as necessary

Place material into closed waste disposal container.

Any sweeper or vacuum should be equipped with High Efficiency Particulate (HEPA) filter.

Dispose of using a licensed waste disposal contractor.

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7 - HANDLING AND STORAGE

Protective measures for safe handling

Protective Measures: Minimize dust generation

Use appropriate respiratory protection if dust is present above the established exposure limits.

If dusty conditions exist (such as during cutting, sanding, or milling) use engineering controls and/or respiratory protection (See Section 8).

Advice on general occupational hygiene: Eating and smoking should be prohibited in areas where this material is handled, stored and processed.

Workers should wash hands and face before eating and smoking.

Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations.

Store in original container in a dry area, away from incompatible materials (see Section 10) and food and drink.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION



Control parameters

Occupational exposure limits:

US Occupational Safety and Health Administration Permissible Exposure Limit (OSHA PEL):

Irritant (Nuisance): Dust: 5 mg/m³

Crystalline Silica (Respirable): 10 mg/m³
%SiO₂ + 2

Crystalline Silica (Total Dust): 30 mg/m³
%SiO₂ + 2

(See 29 CFR 1910.1000 Table Z-3)

American Conference of Governmental and Industrial Hygienists Threshold Limit Value (ACGIH TLV®):

Irritant (Nuisance) Dust: 3mg/m³

Crystalline Silica 0.025 mg/m³

Note: TLV® and PEL values are for eight hour exposures, unless noted.

Appropriate Engineering controls: If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Power equipment should be fitted with a properly designed dust collection device.

Environmental Exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing.

Wash contaminated clothing before reusing.

Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory Protection: Wear a NIOSH-approved dust mask to limit exposure to product dust.

Higher dust levels may require use of a half or full mask respirator with dust filters.

Use local exhaust if necessary to lower dust levels.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye/Face Protection: Wear safety glasses with side shields or goggles complying with an approved standard to avoid exposure to dust.

Hand Protection: Protective gloves should be worn when handling and to avoid abrasion or drying of skin.

Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Other Skin Protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid Blocks of various size

pH: Not Applicable

Melting Point: 2300 °F (1260 °C)

Flash Point: None

Evaporation Rate: 0 (butyl acetate = 1)

Lower Explosive (flammable) Limit: Not available

Vapor Pressure & Density: Not applicable

Solubility: Insoluble

Partition coefficient: n-octanol/water: Not available

Auto-ignition Temperature: Not available

SADT: Not available

Color & Odor: Off-white to gray, odorless

Specific Gravity: 1.5 – 1.7

Boiling Point: N/A

Burning Time & Rate: Not applicable

Flammability (solid, gas): Not applicable

Upper Explosive (flammable) Limit: Not available

Relative Density: Not available

Solubility in Water: Insoluble

Decomposition Temperature: Not available

Viscosity: Not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: This product is normally not reactive.

Chemical stability: The product is stable.

Possibility of Hazardous Reactions:

Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid: Avoid strong acids and ammonium salts. Contact with strong oxidizing agents (such as fluorine, chlorine trifluoride) may present a fire hazard.

Incompatible Materials:

Reactive or incompatible with the following materials: Hydrofluoric acid, fluorine, chlorine trifluoride, oxygen difluoride

Hazardous Decomposition Products: Crystalline silica will dissolve in hydrofluoric acid and produce silicon tetrafluoride, a corrosive gas.

SECTION 11 - TOXICOLOGICAL INFORMATION**Information on toxicological effects****Acute toxicity: Product/ingredient name:** None Known**Irritation/Corrosion:** Not available**Sensitization:** Not available**Mutagenicity:** Not available**Carcinogenicity:** Not available**Reproductive toxicity:** Not available**Teratogenicity:** Not available**Specific target organ toxicity (single exposure):** Not available**Specific target organ toxicity (repeated exposure):** This material contains Crystalline Silica, which is known to cause silicosis. Silicosis is a rapidly progressive, non-cancerous lung disease that is often fatal.**Aspiration hazard:** Not available**Information on the likely routes of exposure:** Routes of entry anticipated: Oral, Dermal, Inhalation.**Potential acute health effects****Inhalation:** Respirable airborne particles may cause temporary irritation to the lungs and upper respiratory system.**Skin contact:** Prolonged exposure may cause dryness or irritation to the skin.**Eye contact:** Will cause mechanical irritation to the eyes. May cause moderate to severe eye irritation and dryness.**Ingestion:** May cause irritation to gastrointestinal tract or mouth.**Symptoms related to the physical, chemical and toxicological characteristics****Inhalation:** Adverse symptoms may include the following: Irritation**Eye contact:** Adverse symptoms may include the following: Irritation, Dryness**Skin contact:** Adverse symptoms may include the following: Irritation, Dryness**Ingestion:** Adverse symptoms may include the following: Irritation, Stomach pains**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure****Potential immediate effects:** Not available.**Potential delayed effects:** Not available.**Long term exposure****Potential immediate effects:** Not available.**Potential delayed effects:** Not available.**Potential chronic health effects:** Not available**General:** No other known significant effects or critical hazards.**Carcinogenicity:** Crystalline silica – long term overexposure may cause permanent and irreversible lung damage, including silicosis, and increase the risk of lung cancer, kidney, and liver damage. Silicosis is a rapidly progressive, non-cancerous lung disease that is often fatal.**IARC (International Agency for Research on Cancer):** 014808-60-7 Silica dust, crystalline, in the form of quartz or cristobalite - Group 1 (Sup 7, 68,100C, 2012)**National Toxicology Program (NTP) Report on Carcinogens:** Silica, Crystalline (Respirable Size) - Known To Be Human Carcinogen**OSHA:** Crystalline Silica classified as a Category 1A Carcinogen**Mutagenicity:** No known significant effects or critical hazards.**Teratogenicity:** No known significant effects or critical hazards.**Developmental:** No known significant effects or critical hazards.**Fertility effects:** No known significant effects or critical hazards.**Numerical measures of toxicity Acute toxicity estimates:** Not available.

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity: Not available.

Persistence and Degradability: Not available.

Bioaccumulative Potential: Not available.

Mobility in soil Soil/water partition coefficient (K_{oc}): Not available.

SECTION 13 - DISPOSAL INFORMATION

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

This material and its container must be disposed of in a safe way.

Care should be taken when handling emptied containers that have not been cleaned or rinsed out.

Empty containers or liners may retain some product residues.

Avoid dispersal of spilled material and runoff and contact with waterways, drains and sewers.

SECTION 14 - TRANSPORT INFORMATION

Canadian Transportation of Dangerous Goods Regulation: Hazard Class & PIN: Not Regulated

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

Special precautions for user:

Transport within user's premises: always transport in closed containers that are upright and secure.

Ensure that persons transporting the product know what to do in the event of an accident or spillage

SECTION 15 - REGULATORY INFORMATION

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not applicable

United States inventory (TSCA 8b): This material is listed.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed

Clean Air Act Section 602 Class I Substances: Not listed

Clean Air Act Section 602 Class II Substances: Not listed

DEA List I Chemicals (Precursor Chemicals): Not listed

DEA List II Chemicals (Essential Chemicals): Not listed

SARA 302/304 Composition/information on ingredients: No products were found.

SARA 304 RQ: Not applicable.

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SARA 311/312 Classification:**Composition/information on ingredients:**

Name	%	Immediate(acute) Health Hazard	Delay(chronic) Health Hazard	Fire Health Hazard	Reactivity Hazard	Sudden Release of Pressure
Ceramic Matrix	60-98	No	No	No	No	No
Crystalline Silica (Quartz)	0.1-46	Yes	Yes	No	No	No
Crystalline Silica (Cristobalite)	0.1-22	Yes	Yes	No	No	No

Section 313 listed: No**Listed material/compound:** Not Applicable**State regulations****New York:** Crystalline Silica**New Jersey:** Crystalline Silica**Pennsylvania:** Crystalline Silica**Massachusetts:** Crystalline Silica**Rhode Island:** Crystalline Silica**California Prop. 65:** Crystalline Silica**International Lists****DSL (Canada):** All ingredients are listed, or exempt from inclusion, on the Canadian Domestic Substances List (DSL).**Canada inventory (WHMIS):** Listed. Class D-2A: Material causing other toxic effects.
Very Toxic – Chronic.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Australia inventory (AICS): Not determined.**China inventory (IECSC):** Not determined.**Japan inventory:** Not determined.**Korea inventory:** Not determined.**Malaysia Inventory (EHS Register):** Not determined.**New Zealand Inventory of Chemicals (NZIoC):** Not determined.**Philippines inventory (PICCS):** Not determined.**Taiwan inventory (CSNN):** Not determined.**Chemical Weapons Convention List Schedule I Chemicals:** Not listed**Chemical Weapons Convention List Schedule II Chemicals:** Not listed**Chemical Weapons Convention List Schedule III Chemicals:** Not listed**DSCL (Europe):**

R48/20: Harmful – Danger of serious damage to health by prolonged exposure through inhalation.

R36: Irritating to the eyes

R39: Danger of serious irreversible side effects.

R45: May cause cancer.

SECTION 16 - OTHER INFORMATION

Only Trained personnel should use this material.

Abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service

CERCLA: Comprehensive Environmental Response, Compensation and Liability Act

DOT: Department of Transportation

EPA: Environmental Protection Agency

IARC: International Agency for Research on Cancer

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

SARA: Superfund Amendment and Reauthorization Act

WHMIS: Workplace Hazardous Materials Information System (Canada)

DISCLAIMER

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Occupational exposure limits are under constant review and may be changed at any time. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of this product. This summary of the relevant data reflects professional judgment. Employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, Plibrico Company LLC does not extend any warranty (expressed or implied), assume any responsibility or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user. No warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use. In addition, Plibrico Company LLC shall not be liable for injury arising by either misuse of materials, or failure to follow safety procedures as outlined in the safety data sheet.

End of MSDS