

Plibrico Company
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MATERIAL SAFETY DATA SHEET

Effective Date: August 30, 2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Pli-Bric IFB 23, 26, 28, 30

Product Number: 20230 / 20231, 20260 / 20261, 20280 / 20281, 20300 / 20301

Product: Insulating Fire Brick

Supplier:

Plibrico Company LLC 1010 N. Hooker Street, Chicago, Illinois 60642
 Phone 312-337-9000; Fax 312-337-9003

Manufacturer:

BNZ Materials, Inc., 6901 S. Pierce St., Suite 260, Littleton, Colorado 80128
 Phone 800-688-8677

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>Percent by Weight</u>	<u>C.A.S. Number</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>
Ceramic matrix	60 – 98	Proprietary	3 mg/m ³	5 mg/m ³
Quartz***	0.1 – 20	14808-60-7	0.025 mg/m ³	0.025 mg/m ³
Cristobalite***	0 - 20	1446446-1	0.025 mg/m ³	0.025 mg/m ³

Note: *** Greater amount of quartz and / or cristobalite may be formed after firing.

3. HAZARDS IDENTIFICATION

Emergency Overview

This product contains crystalline silica, a substance that has been listed by:

WHMIS Symbol: Toxic – D2A – Materials Causing Other Toxic Effects

The International Agency for Research on Cancer (IARC) as Group “carcinogen based on sufficient evidence for the carcinogenicity of crystalline silica to humans” **(IARC GROUP -1).**

The National Toxicology Program (NTP) as a substance known to be a human carcinogen.

The American Conference of Governmental Industrial Hygienists (ACGIH) as “A2-Suspected Human Carcinogen.”

The HMIS rating:

Health: 2, Reactivity: 0, Flammability: 0, PPE Code: E

The NFPA rating:

Health: 1, Reactivity: 0, Flammability: 0, Special Hazard: 0

Target Organs: Lungs, respiratory tract (nose & throat), eyes, skin

Potential Health Effects:

Eyes: May cause irritation. Abrasive action of dust can damage eye.

Skin: May cause irritation

Ingestion: May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain and diarrhea.

Inhalation: 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. In addition there is sufficient evidence for the carcinogenicity of crystalline silica to humans.

CARCINOGEN STATUS: FOR CRYSTALLINE SILICA- Human sufficient evidence, animal sufficient evidence (IARC GROUP -1).

4. EMERGENCY AND FIRST AID PROCEDURE:

Eyes: Immediately flush eyes with plenty of water and get medical attention.

Skin: Wash with soap and water. Get medical attention if irritation develops or persists.

Ingestion: If swallowed, seek medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get immediate attention.

If symptoms persist, seek medical attention.

5. FIRE FIGHTING MEASURES

The NFPA Codes: Health: 1, Reactivity: 0, Flammability: 0, Special Hazard: 0

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.

Hazardous Combustion Products: None

Fire Fighting Equipment: Fire fighters should wear full turn-out (bunker) gear and full respiratory protection (self-contained breathing apparatus-SCBA). Wear SCBA with full face-piece, operated in the positive pressure mode when fighting fires.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Use routine housekeeping procedures, avoid dusting, collect material in closed containers or bags. Wear appropriate personal protective equipment.

7. HANDLING AND STORAGE

To ensure product quality, store material in a dry place. Minimize dust generation and avoid inhalation and contact with refractory dusts during processing, installation, maintenance and tear-out. After handling of refractory dusts from processing, installation, maintenance or tear-out, wash exposed skin areas thoroughly. Wash clothing contaminated with dusts.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation:

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. Use local and mechanical ventilation to reduce employee exposures to below applicable ACGIH TLVs.

Respiratory Protection:

Wear NIOSH approved respirator for dust and mists, including silica, in compliance with local occupational exposure regulations.

Eye Protection: Safety glasses/goggles

Skin Protection: Protective gloves recommended.

Other Protective Clothing or Equipment:

Wear clothing which minimizes skin exposure to refractory dust.

Wash all exposed areas gently with soap and water after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not applicable

Melting Point: >2300°F (1260°C)

Solubility in Water: Insoluble

Specific Gravity: 1.5- 1.7

Odor: No characteristic odor

Appearance: Solid blocks of various sizes

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Evaporation Rate: Not applicable

% Volatile by Weight: Not applicable

pH: Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur

Incompatibility: Strong acid

Condition To Avoid: Contact with incompatibility materials

11. TOXICOLOGICAL INFORMATION

For crystalline silica (quartz /cristobalite):

CARCINOGENICITY: Product contains crystalline silica which may cause delayed respiratory disease (silicosis) if inhaled over a prolonged period of time. IARC concludes that "there is a sufficient evidence for the carcinogenicity of crystalline silica to humans." (Group 1).

12. ECOLOGICAL INFORMATION

No ecological concerns have been identified.

Not applicable for as-manufactured refractory product. Dusts of as-manufactured refractory product have a low order of aquatic toxicity (rating TLM96: over 1000 ppm), are insoluble, and are not very mobile. Based upon this information, it is not believed to be a significant threat to the environment if accidentally released on land or into water. However, dusts generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g. metal). Evaluation of dusts from specific processes should be performed by a qualified environmental professional to determine if an environmental threat exists in the case of a release.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: According to the EPA (40CFR261.3) wastes are not hazardous wastes. Wastes may be disposed of in a landfill, however, in accordance with federal, state, and local regulations. However, dusts generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g. metals). Therefore, appropriate waste analysis may be necessary to determine proper disposal. Waste characterization and disposal/treatment methods should be determined by a qualified environmental professional in accordance with applicable federal, state and local regulations.

14. TRANSPORTATION 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

15. REGULATIONS

CANADIAN WHMIS: D2A

CANADIAN EPA: Components of this product are listed on the Domestic Substance List (DSL).

U.S. FEDERAL REGULATIONS:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

SARA TITLE III: EPCRA Section 302 (EHSs):

This product does not contain ingredients subject to reporting requirements of 40 CFR Part 355, Appendices A and B (Extremely Hazardous Substances).

CERCLA Section 304:

This product does not contain ingredients subject to state and local reporting under Section 304 of SARA Title III as listed in 40 CFR Part 302, Table 302.4

SECTION 311/312 HAZARD CATEGORIES:

Product (airborne particulates) is categorized as an immediate (acute) health hazard and a delayed (chronic) health hazard as defined by SARA Title III Section 311/312 (40 CFR 370).

SECTION 313 TOXIC CHEMICALS: None

TSCA: Components of this product are listed on the TSCA Inventory.

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 effects

R45: May cause cancer

16. OTHER INFORMATION

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 Material Safety Data Sheet. Occupational exposure limits are under constant review and may be changed at any time. Employers may use this MSDS 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 MSDS. 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. 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 material safety data sheet.

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