

PLIBRICO COMPANY L.L.C

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Safety Data Sheet**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

Product Names: T-12-P-85, T-13-P-85, T-14-P-85, T-15-P-85 Tile Anchor

Chemical Name: Inorganic Oxide

Supplier: Plibrico Company LLC

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Manufacturer: Snow Shoe Refractories, LLC

895 Clarence Road, P.O. Box 276

Snow Shoe, PA 16874 USA

Phone: 1-814-387-6811

CHEMTREC: 1-800-424-9300

SECTION 2 – HAZARDOUS IDENTIFICATION

NFPA Rating scale 0-4
Flammability

Health

Instability

Special

| HMIS | |
|----------------------------|---|
| HEALTH | 1 |
| FLAMMABILITY | 0 |
| REACTIVITY | 0 |
| PERSONAL PROTECTION | B |

Signal Word: Danger

Hazard statement: H315: Causes skin irritation, H320: Causes eye irritation

H335: May cause respiratory irritation H351: Suspected of causing cancer

H373: May cause damage to lung through prolonged or repeated inhalation.

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

1. IARC: sufficient evidence for the carcinogenicity of crystalline silica to humans. (Group 1)
2. Canadian WHMIS: D2A - Materials Causing Other Toxic Effects
3. ACGIH: A2-Suspected Human Carcinogen.
4. NTP: a substance known to be a human carcinogen.

Precautionary Statements:

P260+P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P280 - Wear eye protection/face protection

P285 - Wear respiratory protection

P305+P351+P338 - If in eyes: Rinse cautiously with water.

P302+P352 - If on skin: Wash with plenty of soap and water.

P501- Dispose of material in accordance with local regulation.

The product is a tan/brown, fired refractory shape/brick ready for installation.

Slight health risk from inhalation of dust generated during installation (sawing/crushing).

Not a fire, spill or environmental hazard.

P-85 Tile Anchor

Revised Date: 2/2016

Primary Route of Entry: Inhalation, Ingestion, Skin Contact**Target Organs:** respiratory tract (nose & throat), eyes, skin.**Potential Health Effects:****Eyes:** May cause irritation. Abrasive action of dust can damage eye.**Skin:** May cause irritation and physical abrasion.**Ingestion:** May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain and diarrhea.**Inhalation:** Inhalation of airborne particulate from sawing or crushing may irritate upper respiratory system.**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.

SECTION 3 – HAZARDOUS INGREDIENTS

This product is a fired refractory shape/brick (an article) available in various sizes and shapes. It is composed of the following mineral phases some of which may be present in dust generated by sawing, cutting, or crushing during installation or tear-out.

| Ingredient: | C.A.S. No. | Weight % | TLV ACGIH mg/m ³ | OSHA PEL mg/m ³ | EINECS |
|----------------------------------|------------|----------|--------------------------------|--|-----------|
| Aluminum Oxide | 1344-28-1 | 70-90 | 1(resp. dust) | 15(total), 5(resp.) | 215-691-6 |
| Aluminosilicate | 1302-93-8 | 5-10 | 2(resp. dust) | 15(total), 5(resp.) | 215-113-2 |
| Quartz (SiO ₂) | 14808-60-7 | 1-3 | 0.025(resp. dust) | 10 mg/m ³ /%SiO ₂ +2 (resp) | 238-878-4 |
| Cristobalite (SiO ₂) | 14464-46-1 | 0.1-3 | 0.025(resp. dust) | 1/2(10 mg/m ³ /%SiO ₂ +2 (resp)) | 238-455-4 |
| Silica, Fused | 60676-86-0 | 0.1-3 | 0.025(resp. dust) | 80 mg/m ³ /%SiO ₂ | 262-373-8 |

Quartz and cristobalite, polymorphs of crystalline silica, classified by IARC as "Known Human Carcinogens -Group 1". NTP lists respirable crystalline silica amongst substances which may "reasonably be anticipated to be carcinogens".

*Silica, fused. ACGIH states this substance has been identified by sources other than IARC, NTP, or OSHA as a suspected or confirmed human carcinogen.

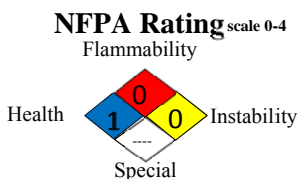
SECTION 4 - FIRST AID MEASURES

Eye contact: Flush eyes, including under the eyelids, with large amounts of water. If irritation persists, seek medical attention.

Skin contact: Wash affected areas with mild soap and water.

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

Ingestion: Ingestion is an unlikely route of exposure. If ingested in sufficient quantity and victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash point: Not Combustible

Hazardous Decomposition Products: None

Extinguishing media: No special instructions or conditions.

Firefighting instructions: Firefighters should wear NIOSH-approved, positive pressure, self-contained breathing apparatus and full protective clothing where appropriate.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill procedures: Product is not a spill nor environmental hazard.

SECTION 7 - HANDLING AND STORAGE

Storage: No special storage instructions.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls: Provide sufficient ventilation, in both volume and air flow patterns, to control dust concentrations below allowable exposure limits.

Personal protective equipment: The use of eye protection, gloves and long sleeve clothing is recommended.

Respiration protection: Provide workers with NIOSH approved respirators in accordance with requirements of 29 CFR 1910.134 for level of exposure incurred.

Hygienic Practices: Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating or drinking.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Shapes are brown to tan in color & available in various sizes & shapes; odorless.

Boiling Point: Not Applicable

Specific Gravity: Mixture

Melting Point: 2900°F (1590°C)

Bulk Density(g/cc): 2.87

Water Solubility: 0 %

Volatile by volume: 0

pH (10% aqueous slurry): Not Applicable

Evaporation rate: Not applicable

SECTION 10 - STABILITY AND REACTIVITY

Hazardous Polymerization: Will not occur

Chemical Incompatibilities: None

Hazardous Decomposition Products: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Aluminum Oxide CAS#1344-28-1 Toxic and Hazard Review (Sax): an experimental tumorigen and neoplastigen by implant. Inhalation of finely divided particles may cause lung damage (Shaver's disease). TOXICITY DATA: ipl-rat TDLo:90mg/kg:ETA; imp-rat TDLo:200 mg/kg:NEO; imp-rat TD :200 mg/kg:ETA.

Aluminosilicates Toxic and Hazard Review (Sax): an experimental tumorigen by implant. Toxicity Data: ipl-rat TDLo: 90 mg/kg:ETA.

Cristobalite CAS#14464-46-1 Toxic and Hazard Review (Sax): Poison by intratracheal route. An experimental carcinogen and tumorigen. Human systemic effects by inhalation: cough, dyspnea, fibrosis. Listed by IARC as a "Known Human Carcinogen - Group 1". Listed by NTP. No LD50 in RTECS. Inhalation-human TCLo: 400 particles per cubic centimeter per 4 years-intermittent: Pulmonary system effects. Other species toxicity data (NIOSH RTECS 1992): intratracheal-rat LDLo 200mg/kg; intrapleural-rat TDLo: 90 mg/kg: carcinogenic effects; intrapleural-rat TD: 100 mg/kg: equivocal tumorigenic agent; intratracheal-rat LDLo: 200 mg/kg.

Fused silica CAS#60676-86-0 Toxic and Hazard Review (Sax): Poison by intraperitoneal, intravenous and intratracheal routes. IARC Cancer Review: Animal sufficient Evidence. ACGIH states (3/93) that this substance has been identified by other sources as a suspected or confirmed human carcinogen. No LD50 in RTECS. Other species toxicity data (NIOSH RTECS 1992): intraperitoneal-rat LDLo: 400 mg/kg; intratracheal-rat LDLo 120 mg/kg, intraperitoneal-mouse LDLo: 40 mg/kg, intravenous-cat LDLo 15 mg/kg.

Quartz CAS# 14808-60-7. Toxic and Hazard Review (Sax): Experimental poison by intratracheal and intravenous routes. An experimental carcinogen, tumorigen, and neoplastigen. CLASS OF COMPOUND(RTECS): Tumorigen; Mutagen; Human data. Human systemic effects by inhalation: cough, dyspnea, liver effects. Listed by IARC as a "known human carcinogen" Group 1. Listed by NTP. No LD50 in RTECS. Toxicity Data:Inhalation human: TCLo 16 million particles per cubic centimeter per 8 hours per 17.9 Years-Intermittent:Pulmonary system effects; Inhalation-human LCLo: 300 micrograms/m3 per 10 years-intermittent: liver. Other species toxicity data (NIOSH RTECS): intravenous-rat LDLo: 90 mg/kg; intraperitoneal-rat LDLo: 200 mg/kg;intravenous-mouse LDLo: 40 mg/kg; intravenous-dog LDLo: 20 mg/kg.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological/Chemical Fate Information:

No data available on any adverse effects of this material on the environment.

SECTION 13 - DISPOSAL INFORMATION

Waste Management/Disposal: This block, or fragments of such, does not exhibit any characteristics of a hazardous waste and is suitable for landfill disposal. However, debris generated during installation or tear-out procedures may be contaminated with other hazardous materials. Therefore, appropriate waste analysis in these instances may be necessary to determine proper method of disposal. Waste characterization and disposal/treatment methods should be determined by a qualified environmental professional in accordance with applicable federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

US Department of Transportation: Not regulated by DOT as a hazardous material. No hazard class, no label or placard required, no UN or NA number assigned.

Canadian TDG Hazard Class & PIN: Not regulated

SECTION 15 - REGULATORY INFORMATION

Product or components of mixture regulated under following lists:

SARA TITLE III:

Section 302: No (Extremely Hazardous Substances)

Section 304: No (Emergency Release)

Section 311: Yes, Cutting/Crushing Product may produce hazardous products - MSDS

Section 312: No, Tier I/II

Section 313: No (Toxic Chemicals, Toxic Chemical Release Reporting, Form R)

CERCLA Hazardous Substance List, RQ: No

TSCA: All substances in this product are listed in the Chemical Substance Inventory of the Toxic Substances Control Act.

California Proposition 65: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive toxins.

SECTION 16 - OTHER INFORMATION

REMOVAL AFTER SERVICE/TEAR-OUT PRECAUTIONS:

Because of the possible presence of crystalline silica in used refractory debris, particular care should be exercised during tear-out to minimize the generation of dust. Adherence to proper methods of dust suppression and control is imperative. The following precautions should be taken during tear-out.

1. Employees should be apprised of the hazards and proper conditions and precautions for safe use or exposure.
2. Approved respirators, in accordance with requirements of 29 CFR 1910.134, should be used for dust levels above 0.05mg/m³ respirable crystalline silica.
3. Dust generation should be minimized by the use of dust control equipment or water spray.
4. Wear protective clothing and vacuum clean prior to removing clothing.
5. Where there is a possibility of exposure to dust containing respirable crystalline silica, the following warning should be posted.

| |
|---|
| FREE SILICA WORK AREA: AVOID BREATHING DUST |
| DUST MAY CAUSE DELAYED LUNG INJURY(SILICOSIS) |

ACRONYMS AND REFERENCES USED IN PREPARATION OF MSDS':

ACGIH: American Conference of Governmental Industrial Hygienists

CAS#: CAS Registration Number is an assigned number to identify a specific substance. CAS stands for Chemical Abstracts Service.

CERCLA: Comprehensive Environmental Response, Compensation & Liability Act

EPCRA: Emergency Planning and Community Right-to-Know Act of 1986

HMIS□: Hazardous Materials Identification System (National Paint & Coatings Association)

IARC: International Agency for Research on Cancer

MSHA: Mine Safety and Health Administration

mg/m³: Milligrams per cubic meter

ACRONYMS continued from page 5

NIOSH: National Institute for Occupational Safety and Health

NFPA: National Fire Protection Association

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit (OSHA)

REL: Recommended Exposure Limit (NIOSH)

SARA: Superfund Amendments and Reauthorization Act

TITLE III: Emergency Planning and Community Right To Know Act

Section 302: Extremely Hazardous Substances

Section 304: Emergency Release

Section 311: Community Right-to-Know, MSDSs or List of Chemicals

Section 312: Community Right-to-Know, Inventories & Locations, (Tier I/II)

Section 313: Toxic Chemicals, Toxic Chemical Release Reporting, Form R

TLV: Threshold Limit Values (ACGIH)

TWA: Time Weighted Average

29CFR1910.134: OSHA Respiratory Protection Standard

REFERENCES:

Sax, N. Irving: Dangerous Properties of Industrial Materials, Ninth Edition, Van Nostrand Reinhold Co., Inc., 1996.

Kirk, R. and Othmer, D., Encyclopedia of Chemical Technology, Third Edition, Wiley- Interscience, New York, NY 1982.

Clansky, K.B., Suspect Chemicals Sourcebook, 1992-2 Edition, Roytech Publications, Bethesda, Maryland.

Sax, N.Irving and Lewis,R.J. Hawley's Condensed Chemical Dictionary, Eleventh Ed., Van Nostrand Reinhold Co.,Inc., NY

Manufacturers/Suppliers, Material Safety Data Sheets on Raw Materials Used American National Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation, American National Standards Institute, Inc.11 West 42nd St, New York, NY 10036.

End of MSDS