

MATERIAL SAFETY DATA SHEET



1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name:	BLU-RAM® HS PLASTIC (Registered Trademark in the following jurisdictions: US)
UN Number	No UN Number Allocated
Product Type:	Monolithic Refractory (Plastic)
TS Number:	LES10072

Company Name And Address:	Vesuvius USA America: 495 Emma Street Bettsville OH 44815
Technical Contact:	Phone #: 1-419-986-5126
Emergency Contact:	24hr. Emergency Assistance (CHEMTREC) 1-800-424-9300 Outside the Continental U.S. See Section 15 or Call Chemtrec Collect: 703-527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance	% Range	Identification No.	Exposure Limits U.S.A.
Aluminum Oxide	15-25	CAS 1344-28-1	ACGIH TLV:TWA (resp.) 1mg/m ³ OSHA PEL:TWA (resp.) 5mg/m ³
Aluminosilicate	65-80	CAS 1302-76-7	ACGIH TLV:TWA (resp.) 5mg/m ³ OSHA PEL:TWA (resp.) 5mg/m ³
Crystalline Silica, Quartz	0.1-1	CAS 14808-60-7	ACGIH TLV:TWA (resp.) 0.025mg/m ³ OSHA PEL*: 3mg/m ³
Crystalline Silica, Cristobalite	0.1-1.5	CAS 14464-46-1	ACGIH TLV:TWA (resp.) 0.025mg/m ³ OSHA PEL**: 2mg/m ³
Blue Dye	<0.1	CAS 147-14-8	None Established
Silica, Fused	7-14	CAS 60676-86-0	ACGIH TLV: Withdrawn
Phosphoric Acid	0-1	CAS 7664-38-2	ACGIH TLV: TWA 1mg/m ³ OSHA PEL:TWA 1mg/m ³

PEL*: TWA (resp.) 10mg/m³ ÷ (%SiO₂+2)

PEL**: TWA (resp.) 10mg/m³ ÷ 2(%SiO₂+2)



3. HAZARDS IDENTIFICATION

Emergency Overview:	Product is blue, damp, mouldable and dust free. Not a fire or spill hazard. Prolonged skin contact may produce irritation/inflammation.
Precautions:	Pre-existing lung conditions such as, but not limited to bronchitis, emphysema and asthma.
Chronic Health Effects:	Prolonged inhalation of dried product (after service tear-out) may lead to the development of a disabling pulmonary fibrosis known as silicosis, which may lead to cancer.
Acute Health Effects:	Eyes: Corrosive and physical eye irritant Skin: Slight skin irritation Inhalation: Irritation of upper respiratory system Ingestion: May cause gastrointestinal disturbances

4. FIRST AID MEASURES

Inhalation:	Remove victim to fresh air. If not breathing, give artificial respiration and seek medical attention.
Eye contact:	Flush eyes with large amounts of water. Seek medical attention if irritation persists.
Skin contact:	Wash affected area with mild soap and water.
Ingestion:	Seek medical attention if symptoms persist.

5. FIRE FIGHTING MEASURES

Extinguisher Type:	No special instructions or conditions.
Special Procedures:	No special instructions other than use of approved respirators. Product is not a combustible. No hazardous decomposition products.

6. ACCIDENTAL RELEASE MEASURES

Spillage:	No special requirements. Use safety glasses, gloves, skin protection, and (if dry) respiratory protection.
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7. HANDLING AND STORAGE

Handling	No special requirements. Use safety gloves and glasses.
Storage	No special requirements

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation:	Provide sufficient ventilation, in both volume and airflow patterns, to control any mist/particulate emissions below allowable limits. See Exposure Limits in Section 2.
Respiratory:	Provide workers with legally approved respirators for level of exposure incurred.
Eye:	The use of proper eye protection is recommended (ex. safety glasses).
Hand:	The use of proper hand protection is recommended (ex. barrier cream with anti-slip gloves).
Other:	Safety shoes and long sleeve shirts are recommended for foot and skin protection.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: A blue, damp, mouldable mixture of fine materials; some plastic fibers may be present; slight pungent odor.

Boiling Point:	Not Applicable
Melting Point:	See specific Product Data Sheet
Bulk Density:	See specific Product Data Sheet
% Volatile by Volume:	0
Evaporation Rate:	Not applicable
Water Solubility:	3-5%
pH:	2.5-3.5
Specific Gravity (g/cc):	Mixture

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Incompatibility	None
Hazardous Decomposition	None

11. TOXICOLOGICAL INFORMATION

Substance & CAS Number	Carcinogenic Data	Summary of Hazards
Silica, Fused (CAS 60676-86-0)	IARC Group 3	Respiratory: Inhalation Hazard
Cristobalite (CAS 14464-46-1)	IARC Group 1	Respiratory: May Develop Silicosis
Quartz (CAS 14808-60-7)	IARC Group 1	Respiratory: May Develop Silicosis

12. ECOLOGICAL INFORMATION

No Data Available

13. DISPOSAL INFORMATION

This product, as manufactured, does not exhibit any characteristics of a hazardous waste. It is suitable for landfill disposal. However, debris generated during installation, maintenance or tear-out procedures may be contaminated with other hazardous materials. Therefore, appropriate waste analysis may be necessary to determine proper disposal. A qualified environmental professional in accordance with applicable federal (country specific), state, and local regulations (laws) should determine waste characterisation and disposal/treatment methods.



14. TRANSPORT INFORMATION

This product is not classified as a hazardous material for transportation. No hazard class, label or placard required, nor UN or NA number assigned. An environmental professional for country specific regulatory requirements should review shipment outside the U.S.

15. REGULATORY INFORMATION

Products or components of mixture regulated under the following

U.S.A. Regulations:

Sara Title III: (302/304) No; (311/312) Yes; (313) No

CERCLA (RQ): Yes (Phosphoric Acid) 5000lbs.

TSCA: Yes (All Substances listed in ingredients)

California Proposition 65: Yes (Crystalline Silica)

HMIS Codes: Health: 2 Fire: 0 Reactivity: 0 Protection: E

Canadian Regulations:

Domestic Substance List (DSL): Yes (All Substances Listed)

WHMIS Class: D2A, D2B, E

Contact Phone # 905-732-4441



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 minimise 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 federal regulations, should be used for dust levels above established exposure limits for respirable crystalline silica.
- 3.) Dust generation should be minimised 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#: Stands for Chemical Abstracts Service
 CERCLA: Comprehensive Environmental Response, Compensation & Liability Act
 IARC: International Agency for Research on Cancer
 Group 1: Carcinogenic to Humans. (IARC)
 Group 2A: Probably Carcinogenic to Humans. (IARC)
 Group 2B: Possibly Carcinogenic to Humans. (IARC)
 Group 3: Unclassifiable as to Carcinogenicity in Humans. (IARC)
 Group 4: Probably not Carcinogenic to Humans. (IARC)
 HMIS: Hazardous Materials Identification (National Paint and Coatings Association)
 mg/m³: Milligrams per cubic meter
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible Exposure Limit (OSHA)
 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*, MSDS or List of Chemicals
 Section 312: *Community Right-to-Know*, Inventories & Locations, (Tier I/Tier II)
 Section 313: Toxic Chemicals, Toxic Chemical Release Reporting, Form R
 TLV: Threshold Limit Values (ACGIH)
 TWA: Time Weighted Average

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 DataSheets - Preparation, American National Standards Institute, Inc.11 West 42nd St, New York, NY 10036.

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