

**H.C. MUDDOX**

4875 Bradshaw Road
Sacramento, CA 95827-9727
(916) 368-4567
FAX (916) 362-9182

To Whom It May Concern:

Re: Mortar Clay from Gladding McBean – Lincoln, Ca.

The Mortar Clay that H.C. Muddox supplies is a highly plastic fire clay that is manufactured (mined, ground, screened and sacked) to aid in the plasticity of cement mortar mixes. It is commonly used as a barrier in ponds, toxic dumps, ceramic clay bodies, tennis courts, etc. This clay is considered a Kaolinic Fire Clay.

The chemical make-up is as follows:

Typical chemical analysis – Silicon Dioxide – 56.2%
Aluminum Oxide – 24.2%
Ferric Oxide – 2.63%
Calcium Oxide - *
Magnesium Oxide - .05%
Sodium Oxide - .33%
Potassium Oxide – 1.72%
Titanium Dioxide – 2.1%
Manganese Dioxide - .008%
Loss on Ignition at 1750 F – 9.26%
Moisture at 105 C – 2.34%
Undetermined – 1.16 %

This clay is a pure and natural product and does not contain any additives. It is from the Kaolin or china clay family and is not a bentonite (montmorillonite).


GLADDING, McBEAN

 a division of PACIFIC COAST
building products

MATERIAL SAFETY DATA SHEET

DATE REVISED: 03/24/01

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

Identity: Lincoln Fireclay, Mortar Clay
Trade Names: Gladding McBean Lincoln Clays
Manufacturer's Name:
 Gladding, McBean
 601 7th Street
 Lincoln, CA 95648

Emergency Telephone Number
 (916) 645-3341
Telephone Number for Information
 (916) 339 -8127

SECTION II - PRODUCT AND COMPONENT DATA

Composition	CAS Number	% by Weight	ACGIH TLV	OSHA PEL
Various Clay Mixture	Various	>95%	10 mg/m ³	15 mg/m ³

EXPOSURE LIMITS:

Composition	CAS Number	ACGIH TLV	OSHA PEL
Crystalline Silica (Quartz)	14808-60-7	See Below	See Below

OSHA PEL for crystalline silica in the form of quartz is $\approx 10 \text{ mg/m}^3 \div (\% \text{ SiO}_2 + 2)$, and 50% of this value for cristobalite and tridymite.

SECTION III - HEALTH HAZARD and FIRST AID INFORMATION
CHRONIC HAZARDS:

Primary Route of Exposure: Inhalation

Exposure Limits: (Acceptable exposure levels for this product must be defined in the workplace due to the combination of silica and other constituents and condition of use.) Unless specified otherwise, limits are expressed as eight-hour time-weighted averages (TWA). Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half of the limits for quartz.

Particulates or Dust: TLV - 10 mg/m^3 (total particulate) or 3 mg/m^3 (respirable particulate), not otherwise classified; OSHA PEL = 15 mg/m^3 (total particulate, not otherwise regulated). OSHA PEL = 5 mg/m^3 (respirable particulate, not otherwise regulated).

Respirable Crystalline Silica (quartz): TLV = 0.1 mg/m^3 ; OSHA PEL = $10 \text{ mg/m}^3 \div (\% \text{ SiO}_2 + 2)$; OSHA Proposed PEL 0.1 mg/m^3

Respirable Dust containing silica: OSHA PEL = $10 \text{ mg/m}^3 \div (\% \text{ SiO}_2 + 2)$

Total Dust containing silica: OSHA PEL = $30 \text{ mg/m}^3 \div (\% \text{ SiO}_2 + 2)$

ACGIH and OSHA have determined that adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate TLVs/PELs. However, because of the wide variation in individual susceptibility, lower exposure limits may be appropriate for some individuals, including persons with pre-existing medical conditions such as those described below.

Abbreviations: TLV = threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH); OSHA PEL = permissible exposure limit of the Occupation Safety and Health Administration (OSHA);

mg/m³ = milligrams of substance per cubic meter of air.

SUBCHRONIC AND CHRONIC HEALTH EFFECTS:

Pulmonary Diseases: Excessive exposure to particulates (dust) over an extended period of time may result in the development of silicosis and other pulmonary diseases.

Carcinogenicity: IARC has classified respirable crystalline silica (quartz) a known carcinogen in humans.

California Proposition 65 Warning: Sanding dry clay products will expose you to respirable crystalline silica which is "known in the State of California to cause cancer and to other substances which are known to the State of California to cause cancer, birth defects and other reproductive harm."

See also: American Society for testing and Materials (ASTM) Standard practice E1132-86, "Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust."

Medical Conditions Aggravated by Exposure: Excessive dust exposure may aggravate any existing respiratory disorders or diseases. Possible complications of allergies resulting in irritation to skin, eyes and respiratory passage may occur from excessive exposure to dusts.

ACUTE HAZARDS:

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.

Skin Contact: Direct contact may cause irritation by mechanical abrasion.

Skin Absorption: Not expected to be a significant exposure route.

Ingestion: Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation and blockage.

Inhalation: Dusts may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits. Use of natural sand and gravel for construction purposes is not believed to cause additional acute toxic effects. However, repeated overexposure to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to); shortness of breath, cough, fever, weight loss, and chest pain.

FIRST AID:

Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

Skin: Wash with soap and water. Contact a physician if irritation persists or later develops.

Ingestion: If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

SECTION IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point:	NA	Specific Gravity (H ₂ O = 1):	2.6
Vapor Pressure (mm Hg):	NA	Melting Point:	NA
Vapor Density (Air = 1):	NA	Evaporation Rate:	
Solubility in Water:	0	(Butyl Acetate = 1)	NA
Appearance and Odor: Vitrified solid, essentially odorless, wide range of colors			

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): NA
Extinguishing Media: NA
Unusual Fire and Explosion Hazards: None

Flammable Limits: NA LEL: NA UEL: NA
Special Fire Fighting Procedures: None

SECTION VI - REACTIVITY DATA

Stability: Unstable: Stable: X Conditions to Avoid: None
Incompatibility (Materials to Avoid): None known
Hazardous Decomposition or Byproducts: None known
Hazardous Polymerization: May Occur: Will Not Occur: X Conditions to Avoid: None

SECTION VII - PERSONAL PROTECTION AND CONTROL MEASURES

RESPIRATORY PROTECTION: To minimize exposure to dust and/or crystalline silica, cutting or sanding dry clay products should be conducted with a wet saw/grinder and with sufficient ventilation. When such controls are not feasible, NIOSH/MSHA approved respirators must be worn in accordance with a respiratory protection program which meets OSHA requirements as set forth at 29 CFR 1910.134 and ANSI Z88.2-1080 "Practices for Respiratory Protection."

SKIN PROTECTION: Use gloves and/or protective clothing if abrasion or allergic reactions are experienced.

EYE PROTECTION: Use safety glasses with side shields. Face shields should also be used when dry sawing clay products. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.

LOCAL EXHAUST: When dry sanding, sawing or grinding clay products, use sufficient local exhaust to reduce the level of respirable dust to the applicable standards set forth in Section III. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice," latest edition.

SAFETY MEASURES: Wear safety goggles and dust mask.

WORK/HYGIENIC PRACTICES: Avoid creating and breathing dust.

OTHER CONTROL MEASURES: Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by feasible engineering controls, including (but not limited to) wet sanding, wet suppression, ventilation, and process enclosures. Respirators must be worn when such controls are not feasible or do not completely control dust generation.

SECTION VIII - HANDLING AND STORAGE INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Use adequate ventilation dustless vacuum or cleanup systems for handling, storage, and clean-up so that airborne dust does not exceed the PEL. Use adequate ventilation and dust equipment. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA standards. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing which has become dusty. See also control measures in Section VII.

WASTE DISPOSAL METHOD: This material is classed as a non-hazardous solid waste for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: None for normal handling and storage of intact brick. This product is not intended or designed for use as an abrasive blasting medium or for foundry applications and should not be used for those purposes. Do not store near food and beverages or smoking materials.

OTHER REGULATIONS: Community Right-To-Know = this product is not subject to the reporting requirements of Title III of SARA, 1986, and 40 CFR 372.

TRANSPORTATION: DOT Hazard Classification: Not Regulated
UN/NA Code: None
Placard Required: None.
Labeling Requirement: None.

SECTION IX - OTHER INFORMATION

The information and recommendations contained herein are based upon the data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful health effects which may be caused by exposure to airborne dust particles. Customers/users of clay must comply with all applicable health and safety laws, regulations, and orders.

MSDS STATUS: Revision 2
PREPARER: Normita G. Callison
Title: Environmental Manager
Telephone No: (916) 339 -8127