

SAFETY DATA SHEET

Refractory Cement - Buff/Tan

SECTION 1 - IDENTIFICATION

1.1 Product identifier

Product Name: Refractory Cement - Buff/Tan

Product Code(s): KK0307, KK0308

Synonyms: Silicate-based mortar

REACH Registration Number: No data available

1.2 Relevant identified uses of the substance or mixture and uses advised against

General Use: High temperature refractory cement

Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor

Kel Kem Ltd.

1333 Cornwall Road

Oakville, Ontario, Canada L6J 7T5

905-829-5888

1.4 Emergency telephone number: (24 hours) Canutec (613) 996-6666 (Collect)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Mixture

Classification (Regulation (EC) No 1272/2008)

None allocated

2.2 Label Elements

Labeling (Regulation (EC) No 1272/2008)

None allocated

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical characterization (preparation)

% by Weight	Ingredient	CAS Number	EC Number	Index Number	EC Classification
15 - 40	Sodium Silicate	1344-09-8	215-687-4	-----	-----
25 - 60	Kaolin Clay*	1332-58-7	310-194-1	-----	-----

*Contains <1% crystalline silica (quartz) and <1% Titanium Dioxide

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.

Skin: Remove contaminated clothing. Quickly and gently remove excess product with a dry cloth or paper towel. Flush skin with lukewarm water for 15 minutes. Wash affected area with soap and water. Clean contaminated clothing and shoes before reuse. If irritation persists, seek medical advice.

Ingestion: Rinse mouth with water if victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration of material into the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes eye irritation. Symptoms may include redness, itching, swelling, tearing and pain.

Skin: May cause skin irritation. Symptoms may include localized redness, itching and discomfort.

Inhalation: Vapor may cause irritation of the respiratory tract.

Chronic: Persons with pre-existing skin disorders or respiratory impairment may be more susceptible to the effects of this material. Chronic skin exposure may dry skin or cause dermatitis. Titanium Dioxide is a suspected animal carcinogens. Crystalline Silica (quartz) has been determined to be carcinogenic as respirable dust.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel

Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use water fog or water spray, dry chemical, carbon dioxide and foam.

Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: Material does not present an explosion hazard.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control runoff water to prevent environmental contamination. Fire residues and contaminated extinguishing water must be disposed of in accordance with local regulations.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Remove all sources of ignition. Ventilate the area. Wear appropriate protective clothing and equipment designated in Section 8. Spilled material creates a slip hazard.

6.2 Environmental precautions

Avoid dispersal of spilled material and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover spill with non-combustible absorbent. Wipe or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled material, even in small quantities, may present a slip hazard. Final cleaning may require use of steam or washing with detergents. Place saturated absorbent or cleaning materials into an approved container for proper disposal. Observe possible material restrictions (refer to Sections 7.2 and 10.5).

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Observe label precautions. Wear all appropriate protective equipment specified in Section 8. Keep containers closed when not in use.

Advice on protection against fire and explosion

Product does not present a fire or explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in cool, dry, well-ventilated storage areas. Transfer only to approved containers having correct labeling. Protect containers against physical damage. Keep containers tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not reuse empty containers as they may retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
1344-09-8	Sodium Silicate	5 mg/m3 Respirable Fraction* 15 mg/m3 Total Dust	10 mg/m3 Inhalable Particulate 3 mg/m3 Respirable Fraction	-----
1332-58-7	Kaolin Clay	15 mg/m3 (total dust) 5 mg/m3 (respirable fraction)	2 mg/m3 (respirable fraction)	10 mg/m3 (total dust) 5 mg/m3 (respirable fraction)
13463-67-7	Titanium Dioxide	10 mg/m3 (total dust) 5 mg/m3 (respirable fraction)	10 ppm (as dust)	-----
14808-60-7	Crystalline Silica	10 mg/m3 (respirable dust)	0.025 mg/m3 (respirable fraction)	0.05 mg/m3 (respirable fraction)

*Related to particles; otherwise not regulated

8.2 Exposure controls

Engineering Measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective goggles or safety glasses with unperforated side shields during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166. It is recommended that contact lenses be removed before using this sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses, causing severe eye irritation.

Hand Protection: Wear Nitrile rubber or Neoprene gloves or those recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Other protective equipment: Long sleeve shirts and trousers without cuffs; boots if the situation calls for them.

Respiratory Protection: None needed under ambient conditions with adequate local exhaust. Always use an approved respirator when vapors are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full -faced supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

NOTE: This material may contain materials classified as nuisance particulates (listed as "Dust") which may be present at hazardous levels only during sanding, abrading or removal of dried films. If no specific dusts are listed in Section 8, the applicable limits for unknown nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

Environmental exposure controls: Do not empty into drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Opaque tan or buff colored paste
Odor	Mild
Odor Threshold	No data available
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	No data available
Freezing/Melting Point, Range	No data available
Initial Boiling Point	No data available
Evaporation Rate	Slower than ether
Flammability (solid, gas)	Not applicable
Flash Point	Not applicable
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	No data available
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	No data available
Vapor Density	>1 (Air = 1)
Specific Gravity	1.5 - 1.60
Viscosity	No data available
Solubility in Water	No data available
Partition Coefficient: n-octanol/water	Not determined
Volatiles by Volume @ 70 °F	20 - 25%

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No special reactivity has been reported.

Hazardous polymerization does not occur.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

None known

10.4 Conditions to avoid

High temperatures, incompatible materials

10.5 Incompatible materials

Acids, oxidizing agents, ammonium salts, chemically active metals

10.6 Hazardous decomposition products

Thermal decomposition products include silicone oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

Expected to have low acute oral toxicity

Acute inhalation toxicity

Expected to have low acute inhalation toxicity

Acute dermal toxicity

Expected to have low acute dermal toxicity

Skin irritation

Causes skin irritation

Eye irritation

Causes eye irritation

Sensitization

No data available

Genotoxicity in vitro

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

Titanium Dioxide: IARC Group 2B Carcinogen - Possibly carcinogenic to humans. Not listed as a carcinogen by ACGIH, OSHA or NTP. The IARC summary concluded, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials such as paint".

Crystalline silica (quartz) is considered a hazard by inhalation and there may be a relationship between silicosis and certain cancers.

IARC: Group 1 - Carcinogenic to humans; Monograph No. 68 [1997]; listed under Crystalline Silica inhaled in the form of quartz or cristobalite from occupational sources. ACGIH: A2 - Suspected human carcinogen; NTP - Known carcinogen (select carcinogen); NIOSH: Potential occupational carcinogen.

No data is available regarding the mutagenicity or teratogenicity of this product nor is there available data that indicates that it causes adverse developmental or fertility effects in humans.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Expected to have low toxicity to aquatic organisms with little impact on the aquatic environment. The ecotoxicity of this product has not been evaluated.

12.2 Persistence and degradability

Organic materials in this product is expected to biodegrade over time.

12.3 Bioaccumulation potential

Not expected to bioaccumulate.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Additional ecological information

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The generation of waste should be avoided or minimized whenever possible. Although this product is classified as non-hazardous under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261 this material and its container should be disposed of in a safe way as empty containers may contain product residue. Leave chemicals in original containers. No mixing with other waste. Handle unclean containers like the product itself. Incinerate in an approved facility. Do not incinerate closed container. Dispose of in accordance with the Directive 2008/98/EC as well as other national, federal, state/provincial and local laws and regulations.

Hazardous waste: The classification of this product may meet the criteria for a hazardous waste.

SECTION 14 – TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NOT REGULATED FOR TRANSPORT

SECTION 15 – REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

TSCA Status: All components of this product are listed or exempt from listing on the Toxic Substance Control Act (TSCA) Inventory.

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard

SARA 313 Information: None of the components of this product are subject to the reporting requirements established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance

No components of the product are subject to the reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification:

No components of the product are subject to the reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): None of the components of this product are CERCLA reportable:

Clean Air Act (CAA)

This product does not contain any substances listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:

This product contains chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

Other U.S. State Inventories:

Kaolin Clay (CAS #1332-58-7) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: ID, MN, NJ, PA, WA.

Titanium Dioxide (CAS #113463-67-7) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: IL, MA, MN, NJ, PA, RI.

Crystalline silica (as quartz), contained at ~0.1%, is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: ID, MA, NJ, PA, WA.

Canada

WHMIS Hazard Symbol and Classification

Uncontrolled product according to WHMIS classification criteria.

Canadian Controlled Products Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the MSDS contains all the information required by the Controlled Products Regulations.

Canadian Ingredient Disclosure List (IDL): Crystalline Silica (CAS #14808-60-7) is listed on the IDL.

Canadian National Pollutant Release Inventory (NPRI): None of the components of this product are listed on the NPRI.

European Economic Community

Labeling (67/548/EEC or 1999/45/EC): None allocated.

Safety Phrases: S2 - Keep out of reach of children.

WGK, Germany (Water danger/protection): 1

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	* 1
Flammability	0
Physical Hazard	0
Personal Protection	C

HMIS Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
0 = INSIGNIFICANT 3 = HIGH
1 = SLIGHT 4 = EXTREME



Safety Glasses

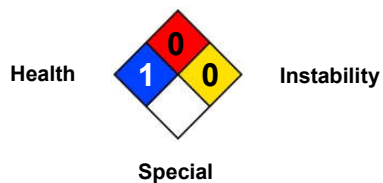


Gloves



Protective Apron

**National Fire Protection Association (NFPA)
Flammability**



NFPA Hazard Rating Legend

- 0 = INSIGNIFICANT
- 1 = SLIGHT
- 2 = MODERATE
- 3 = HIGH
- 4 = EXTREME

Full Text of Risk (R) – Phrases Referenced in Section 3.

The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. Kel Kem Ltd. assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material.

Revision 2: Section 1 Header change. 16February 2017

Revision 1: Formulation revision. Updated to GHS SDS format, 27 September 2014

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