



TEXAS-LEHIGH CEMENT COMPANY

Material Safety Data Sheet

MASONRY CEMENT

Section 1 - IDENTIFICATION

Product Names: Texas-Lehigh Masonry Cement - Types N and S

MSDS Information

This MSDS was produced in May 1999 and replaces any prior versions.

Product Code

Standard Industrial Classification: 3241

Chemical Family

Calcium compounds. Calcium silicate compounds and other calcium compounds containing iron and aluminum make up the majority of this product. Major compounds:

3CaO·SiO ₂	Tricalcium silicate	CAS#12168-85-3
2CaO·SiO ₂	Dicalcium silicate	CAS#10034-77-2
3CaO·Al ₂ O ₃	Tricalcium aluminate	CAS#12042-78-3
4CaO·Al ₂ O ₃ ·Fe ₂ O ₃	Tetracalcium aluminoferrite	CAS#12068-35-8
CaSO ₄ ·2H ₂ O	Calcium sulfate dihydrate or Gypsum	CAS#7778-18-9
CaCO ₃	Calcium carbonate or limestone	CAS#1317-65-3

Chemical Name and Synonyms

Masonry cement. Also known as hydraulic cement.

Formula

This product consists of finely ground portland cement clinker, limestone, and calcium sulfate.*

Supplier/Manufacturer

Texas-Lehigh Cement Company
701 Cement Plant Road
Buda, Texas 78610

Emergency Contact Information

Herb Schneider, 512-295-6111

*Trace Elements

Masonry cement is made from materials mined from the earth and is processed using energy provided by fuels; and therefore may contain naturally occurring materials which might be detected during chemical analysis. For example: Masonry cement may contain up to 5% insoluble residue, of which <2% may be free crystalline silica. Other trace constituents may include potassium and sodium sulfate compounds, chromium compounds, and nickel compounds.

Section 2 - COMPONENTS

<u>Hazardous Substances</u>	<u>OSHA PEL (8-Hour TWA)</u>	<u>ACGIH TLV-TWA (1995 - 1996)</u>	<u>NIOSH REL (8-Hour TWA)</u>
Portland Cement Clinker (CAS#65997-15-1) Nominal 64% by weight	50 million particles/lit ³	10mg total dust/m ³	
Calcium sulfate(CAS#7778-18-9) [Gypsum (CAS#13397-24-5)] Nominal 4% by weight	5mg respirable dust/m ³ 10mg total dust/m ³	10mg total dust/m ³	
Crystalline silica (CAS#14808-60-7) <2% by weight	10mg of respirable dust/m ³ (%SiO ₂ +2)	0.10mg respirable quartz dust/m ³	0.05mg respirable quartz dust/m ³

Section 2 - COMPONENTS (continued)

Components	OSHA PEL (8-Hour TWA)	ACGIH TLV-TWA (1995 - 1996)	NIOSH REL (8-Hour TWA)
Calcium Carbonate (CAS#1317-65-3) (Limestone) Nominal 30% by weight	5 mg respirable dust/m ³ 15 mg total dust/m ³	10 mg total dust/m ³	
Calcium Oxide (CAS#1306-78-8) (Free Lime) <4% by weight	5mg/m ³	2mg/m ³	
Magnesium Oxide (CAS#1309-48-4) <5% by weight	15 mg total dust/m ³	10 mg total dust/m ³	

Section 3 - HAZARDS IDENTIFICATION/TOXICOLOGICAL INFORMATION**Emergency Overview:**

Masonry cement is a light gray powder that poses little immediate hazard. A single short term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration to wet masonry cement can cause serious, potentially irreversible tissue (including skin or eye) destruction in the form of chemical (caustic) burns, including third degree burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry masonry cement.

Potential Health Effects:**Potential effects resulting from eye contact:**

Exposure to airborne dust may cause immediate or delayed irritation or inflammation.

Eye contact by larger amounts of dry powder or splashes of wet masonry cement may cause effects ranging from moderate eye irritation to chemical burns and blindness. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.

Potential effects resulting from skin contact:

Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing or avoiding skin contact, particularly contact with wet cement. Persons exposed to wet cement may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Exposure to dry masonry cement may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Dry masonry cement contacting wet skin or exposure to moist or wet masonry cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Some individuals may exhibit an allergic response upon exposure to masonry cement, possibly due to trace amounts of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with hydraulic cement products.

Potential effects resulting from inhalation:

Masonry cement contains free crystalline silica. Prolonged exposure to respirable free crystalline silica may aggravate other lung conditions. It also causes delayed lung injury including silicosis, a disabling and potentially fatal lung disease. (Also see "Carcinogenic potential" below).

Exposure to masonry cement may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. It may also leave unpleasant deposits in the nose.

Potential effects resulting from ingestion:

Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Masonry cement should not be eaten under any circumstances.

Carcinogenic Potential:

Masonry cement is not listed as a carcinogen by IARC, NTP, or OSHA. It does, however, contain a substance listed as a carcinogen by some of these organizations. Crystalline silica is now classified by IARC as a known human carcinogen (Group 1). NTP has characterized respirable silica as “reasonably anticipated to be (a) carcinogen”.

Medical Conditions Which May Be Aggravated By Inhalation or Dermal Exposure:

- Pre-existing upper respiratory and lung diseases.
- Unusual (hyper) sensitivity to hexavalent chromium (chromium +6) salts.

Section 4 - FIRST AID

Eyes

Immediately flush eyes thoroughly with water. Continue flushing eyes for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

Skin

Wash skin with cool water and pH-neutral soap or a mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged exposure to wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposures to dry cement.

Inhalation of Airborne Dust

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside. (Inhalation of gross amounts of masonry cement requires immediate medical attention.)

Ingestion

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

Section 5 - FIRE & EXPLOSION DATA

Flash Point	None
Lower Explosive Limit	None
Upper Explosive Limit	None
Auto Ignition Temperature	Not combustible
Extinguishing Media	Not combustible
Special Fire Fighting Procedures	None (Although masonry cement poses no fire-related hazards, a self-contained breathing apparatus is recommended to limit exposure to combustion products when fighting any fire.)
Hazardous Combustion Products	None
Unusual Fire and Explosion Hazards	None

Section 6 - ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment as described in Section 8.

Scrape up wet material and place in an appropriate container. Allow the material to “dry” before disposal. Do not attempt to wash masonry cement down drains.

Dispose of waste material according to local, state and federal regulations.

Section 7 - HANDLING AND STORAGE

Keep masonry cement dry until used. Normal temperature and pressure do not affect the materials.

Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement mixture or fluids.

Section 8 - EXPOSURE CONTROL/PERSONAL PROTECTION**Skin Protection**

Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened (wet) masonry cement products. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened masonry cement products might occur, wear impervious clothing and gloves and boots to eliminate skin contact.

Respiratory Protection

Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits. Use NIOSH/MSHA-approved respirators in poorly ventilated areas when dust causes discomfort or irritation, or where there is an applicable exposure limit (Advisory: Respirators and filters purchased after July 10, 1998 must be certified under 42 CFR 84).

Ventilation

Use local exhaust or general dilution ventilation to control exposure below applicable limits.

Eye Protection

When engaged in activities where cement dust or wet cement or concrete could contact the eye, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with masonry cement or fresh cement products.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gray or White powder
Odor	No distinct odor
Physical state	Solid (powder)
pH (in water)(ASTM D 1293-95)	12 to 13
Solubility in water	Slightly soluble (0.1 to 1.0%)
Vapor pressure	Not applicable
Vapor density	Not applicable
Boiling point	Not applicable (i.e. > 1000°C)
Melting point	Not applicable
Specific gravity (H ₂ O = 1.0)	2.98
Evaporation rate	Not applicable

Section 10 - STABILITY AND REACTIVITY**Stability**

Stable

Conditions To Avoid

Unintentional contact with water.

Incompatibility

Wet masonry cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Hazardous Decomposition

Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.

Hazardous Polymerization

Will not occur.

Section 11 - TOXICOLOGICAL INFORMATION - See Section 3

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

No recognized unusual toxicity to plants or animals.

Relevant Physical and Chemical Properties

(See Sections 9 and 10).

Section 13 - DISPOSAL

Dispose of waste material, including bags, according to local, state, and federal regulations.

Section 14 - TRANSPORTATION DATA

Hazardous Materials Description/Proper Shipping Name

Masonry cement is not hazardous under U.S. Department of Transportation (DOT) regulations.

Section 15 - OTHER REGULATORY INFORMATION

Status Under USDOL-OSHA Hazard Communication Rule 29 CFR 1910.1200

Masonry cement is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status Under CERCLA/Superfund 40 CFR 117 and 302(v)

Not listed.

Hazard Category Under SARA (Title III) Section 311 and 312

Masonry cement qualifies as a "hazardous substance" with delayed health effects.

Status Under SARA (Title III) Section 313

Not subject to reporting requirements under Section 313.

Status Under TSCA (as of May 1997)

Some substances in masonry cement are on the TSCA inventory list

Status Under the Federal Hazardous Substances Act

Masonry cement is a "hazardous substance" subject to statutes promulgated under the subject act.

Status Under WHMIS

Masonry cement is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products regulations (class E - corrosive material) and is therefore subject to the labeling and MSDS requirements of the workplace hazardous materials information system (WHMIS).

Section 16 - OTHER INFORMATION

Prepared By

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Buda, Texas 78610

Revision Date

May 1999

Other Important Information

Masonry cement should only be used by knowledgeable persons. Inexperienced product users must obtain proper training before using this product. A key to using the product safely requires the user to recognize that masonry cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a masonry cement product is "setting") pose a far more severe hazard than does masonry cement itself.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of masonry cement as it is commonly used, the sheet cannot, and does not, anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet does not address hazards that may be posed by other materials mixed with masonry cement products. Users therefore, should review other applicable material safety data sheets before working with this masonry cement or working on masonry cement products, for example, masonry cement concrete.

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