MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Names: St. Marys Masonry Cement
St. Marys Mortar Cement
CSA and ASTM *Types N, S and M*

Chemical Name and Synonyms: Masonry Cement
Chemical Family: *Calcium Compounds*

WHMIS classification D2A, E

Manufacturer: St. Marys Cement
55 Industrial Street
Toronto, ON M4G 3W9

Informational Telephone Number: 1-800-268-6148 (Canada)
1-800-462-9157 (Ext.537) (U.S.)
Emergency Telephone Number: 1-613-996-6666 CANUTEC (Call Collect or *666 Cellular) (Canada)
1-800-462-9157 (U.S.)

SECTION 2 –COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	Percent (By Weight)	OSHA-PEL, TWA (mg/m^3)	ACGIH-TLV, TWA (mg/m^3)
Portland Cement	65997-15-1	40-70	15 (T); 5 (R)	1 (R)
Crystalline Silica	14808-60-7	5-10	$(10 \div [\%SiO_2 + 2])$*	0.025 (R)
Calcium Hydroxide	1305-62-0	1-5	15 (T); 5 (R)	5 (T)
Calcium Oxide	1305-78-8	1-5	5	2
Chromates	7440-47-3	Trace	$0.1(CrO_3)$	0.01(Cr)

(T) = Total Dust; (R) = Respirable Fraction

* 29CFR 1910.1000 Table Z-3 Mineral Dusts

Additionally, trace amounts of chromium and nickel compounds may be present.

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview

Masonry cement is corrosive. Short-term exposure to the dry powder is unlikely to cause harm. However, exposure of sufficient duration to wet or dry masonry cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third degree burns.

Potential Health Effects
Relevant routes of exposure: eye contact, skin contact, inhalation, and ingestion.

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.

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 skin contact, particularly contact with wet cement. Exposed persons may not feel discomfort until hours after the exposure, and 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. Skin contact with wet or dry cement products may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged skin contact can cause severe chemical burns. Some ultra-sensitive individuals may exhibit an allergic response upon exposure to Masonry cement, possibly due to trace amounts of chromium (hexavalent chromium salts). The response may appear in a variety of forms ranging from mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product; others might experience this effect only after years of contact with cement products.

Effects Resulting from Inhalation:

Exposure to Masonry cement may cause irritation to the moist membranes of the nose, throat, and upper respiratory system. Inhalation may also aggravate pre-existing upper respiratory and lung diseases.

It may also leave unpleasant deposits in the nose.

Masonry cement may contain small amounts of free crystalline silica. Prolonged exposure to respirable free crystalline silica may aggravate other lung conditions. It also may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease, and/or other diseases.

Effects resulting from ingestion:
Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are accidentally consumed.

Carcinogenic Potential: See Section 11.

Engulfment hazard
Cement can build up or adhere to the walls of a confined space such as a silo, bin, bulk truck, or other container or vessel. The material can be detached, collapse or fall unexpectedly. To prevent burial or suffocation, do NOT enter a confined space without precautions appropriate to Confined Spaces.

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 mild soap or a 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 exposure 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 in an appropriate container and minimize dust. 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, provincial and federal regulations (see Section 13).

SECTION 7 - HANDLING AND STORAGE

Keep Masonry cement dry until used. Normal temperatures do not affect the material. 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 mixtures or fluids.

Static Hazard: Properly ground all pneumatic conveyance systems. The potential exists for static build-up and static discharge when moving cement powders through a plastic, nonconductive, or non-grounded pneumatic conveyance system. Static discharge may result in damage to equipment and injury to workers.

SECTION 8 - EXPOSURE CONTROLS/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. In case of severe contact, provide emergency showers. Clothing saturated with wet concrete products should be promptly removed and replaced with clean dry clothing. Where prolonged exposure to cement products might occur, wear impervious clothing and cut/abrasion-resistant (Heavyweight Nitrile coated Safety cuff) gloves to eliminate skin contact. Where required, wear boots that are impervious to water to eliminate foot and ankle exposure.

Do not rely solely on barrier creams; barrier creams should not be used in place of gloves.

Periodically wash areas contacted by dry Masonry cement, by wet cement, or by concrete fluids with a mild soap. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Respiratory Protection:
Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits.

Use NIOSH-approved respirators (N95 rating or greater) for dust, if an exposure limit is exceeded, or when dust causes discomfort or irritation.

Ventilation:
Use local exhaust where practicable, or general dilution ventilation to control exposure within applicable limits.

Eye Protection:
Wear ANSI- or CSA-approved safety glasses with side shields or goggles. Provide emergency eyewash stations. 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	Grey or White Powder
Odour	No Distinct Odour
Physical State	Solid (Powder)
pH in water (ASTM D 1293-95)	12 to 13
Solubility in Water	Slightly Soluble (0.1 to 1.0%)
Vapour Pressure	Not Applicable
Vapour Density	Not Applicable

Boiling Point .....Not Applicable (i.e. > 1000°C)
Melting Point .....Not Applicable
Specific Gravity (H_2O = 1.0) 2.95
Evaporation Rate.....Not Applicable

SECTION 10 - STABILITY AND REACTIVITY
Stability: Stable, except in the presence of moisture.

Conditions to Avoid: Unintentional contact with water.

Incompatibility:
Wet Portland cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal.

Hazardous Decomposition:
Will not spontaneously occur. Adding water produces (caustic) calcium hydroxide.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION
Calcium oxide: Corrosive to living tissue.

Calcium hydroxide
Eye: Severe irritant (eye-rbt 10mg SEV)
Skin, mucous membrane, respiratory system: Irritant; causes dermatitis
Ingestion: Mildly toxic (orl-rat LD50: 7340 mg/kg)

Crystalline silica
Acute Toxicity: Not acutely toxic
Chronic Toxicity: Respirable crystalline silica is the chief cause of pulmonary dust disease. Prolonged inhalation of crystalline silica can result in silicosis, a disabling pulmonary fibrosis characterized by generalized fibrotic changes, the development of miliary nodules in both lungs, and clinically by shortness of breath on exertion, decreased chest expansion, lessened capacity for work, dry cough, absence of fever, increased susceptibility to tuberculosis, and characteristic x-ray findings of diffuse discrete nodulation scattered throughout both lung fields. In advanced stages, silicosis can include marked fatigue, extreme dyspnea and cyanosis, loss of appetite, pleuritic pain and total incapacity to work. The disease can result in death either from cardiac failure or from destruction of lung tissue, with resultant anoxemia.

Crystalline silica, a minor component in Masonry Cement, is classified as a carcinogen: International Agency for Research on Cancer (IARC) Group 1 “known to be carcinogenic to humans”; ACGIH Group 2A “suspected human carcinogen” (limited evidence of carcinogenicity in humans and sufficient evidence in experimental animals with relevance to humans); NTP indicates that crystalline silica is reasonably anticipated to be a carcinogen (Group 2).

Chromates and Nickel Compounds
Masonry Cement products may contain trace amounts of hexavalent chromium and nickel compounds. Soluble chromates in cement have been stated to be the cause of cement dermatitis in some workers.

Inorganic nickel compounds – pure or in trace amounts – are not absorbed through the skin in amounts sufficient to cause systemic intoxication. However, their capability to cause contact dermatitis in sensitized individuals is well known.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:
No recognized unusual toxicity to plants or animals.

SECTION 13 - DISPOSAL

Dispose of, or recycle, material and containers. Material may generally be disposed to landfill after confirmation of suitability according to provincial (state) or local and federal regulations through leachate testing. Since Masonry cement is stable, uncontaminated material may be saved for future use.

SECTION 14 - TRANSPORTATION DATA

Hazardous Material Description/Proper Shipping Name:
Masonry cement is not hazardous under U.S. Department of Transportation (DOT) or Canadian Transportation of Dangerous Goods (TDG) regulations.

Hazard Class: Not applicable.

Identification Number: Not applicable.

Required Label Text: Not applicable.

Hazardous Substances/Reportable Quantities: Not applicable.

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 CRF 117 and 302: Not listed.

Hazard Category under SARA (Title III), Sections 311 and 312:
Masonry cement qualifies as hazardous substance with delayed health effects under Sections 311 and 312.

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 California Proposition 65:
This product contains chemicals (trace metals) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

Status under the Canadian Environmental Protection Act: Not listed.

Status under the Canadian Workplace Hazardous Materials Information System (WHMIS):
Masonry cement is considered to be a hazardous material under the *Hazardous Products Act* as defined by the *Controlled Products Regulations* (CPR) These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16 - OTHER INFORMATION

Revision date: September 2010 Prepared by: IHEAS Inc. (Tel. 519-657-5105)
Date of previous MSDS: October 2007

Masonry cement should only be used by trained, knowledgeable persons. 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, this sheet cannot 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 do not address hazards that may be posed by other materials mixed with masonry cement to produce masonry cement mortar. Users should review other relevant material safety data sheets before working with this masonry cement or working on masonry cement products, for example, masonry assemblies.

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The information provided herein was believed by St. Marys Cement to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as for product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise, shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.