



Safety Data Sheet

Grey Matter Studio Concrete Mix

1 PRODUCT IDENTIFICATION

Product Name: Grey Matter concrete mix
Product Use: art and sculpture fabrication/construction material
DATE PREPARED: 01-06-2017
COMPANY: Concrete Concrete
5608 82 Ave
Edmonton AB, T6B 3E6
780-964-3219

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Acute toxicity, oral – Category 4 (H302)
Acute toxicity, dermal – Category 4 (H312)
Skin corrosion/irritation – Category 1B (H314)
Serious eye damage/eye irritation – Category 1 (H318)
Acute toxicity, inhalation – Category 3 (H331)
Respiratory sensitization – Category 1 (H334)
Carcinogenicity – Category 1 (H350)
Specific target organ toxicity, repeated exposure – Category 1 (respiratory, H372)

GHS Label elements, including precautionary statements

Hazard Pictogram(s):
Signal word: Danger



Health Hazards:

H302 + H312	Harmful if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

Prevention Precautions:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use in an area with good airflow, wear a respirator
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.

Response Precautions:

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.



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P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER or doctor/physician.

P342 + P311

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P363

Wash contaminated clothing before reuse.

Storage Precautions:

P401

Store in an appropriate container.

P403

Store in a well-ventilated place.

Disposal Precautions:

P501

Dispose of contents/container in accordance with local, state or federal regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS – none known

3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical names	CAS No	Concentration
Portland Cement	65997-15-1	10-50%
Silica Sand	14808-60-7	10-50%
Proprietary Blend	proprietary blend	Balance

Substance/Mixture: mixture

4 FIRST-AID MEASURES

Description of first aid measures

In case of inhalation: Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of portland cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

In case of skin contact: Get medical attention immediately. Heavy exposure to portland cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watch bands and belts. Quickly and gently blot or brush away excess portland cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns. Portland cement causes skin burns with little warning. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure

In case of eye: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

In case of ingestion: Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway



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Most important symptoms/effects both acute and delayed: Not expected to present a significant hazard under anticipated conditions of normal use.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 FIRE-FIGHTING MEASURES

Extinguishing Media: This product will not burn. It is compatible with all extinguishing media. Use any media that is appropriate for the surrounding fire. Flash point: Not applicable

Auto ignition temperature: Not applicable

Specific protective equipment and procedures for firefighters: Wear self contained breathing apparatus and protective clothing
Wear self contained breathing apparatus and protective clothing

Specific chemical hazards: Irritating and toxic gases/fumes may be released during a fire. Do not allow run-off from fire-fighting to enter drains or water courses.

6 ACCIDENTAL RELEASE MEASURES

Environmental precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Methods for cleanup: Dispose in accordance to local, state or federal regulations.

7 HANDLING and STORAGE

Storage: A key to using the product safely requires the user to recognize that portland cement reacts chemically with water to produce calcium hydroxide which can cause severe chemical burns. Every attempt should be made to avoid skin and eye contact with cement. Do not get portland cement inside boots, shoes or gloves.

Do not allow wet, saturated clothing to remain against the skin. Promptly remove clothing and shoes that are dusty or wet with cement mixtures. Launder/clean clothing and shoes before reuse. Do not enter a confined space that stores or contains portland cement unless appropriate procedures and protection are available.

Portland cement can build up or adhere to the walls of a confined space and then release or fall suddenly (engulfment).

Handling: Do not breathe dust. Use of this product may generate elevated airborne levels of crystalline silica dust that may not be visible to the unaided eye. Use normal precautions against bag breakage or spills of bulk material.

Use proper work practices and adequate ventilation with dust collection to maintain airborne levels of respirable crystalline silica to below the OSHA Permissible Exposure Limit (PEL). If airborne levels to crystalline silica cannot be maintained below the PEL, wear respiratory protection and protective clothing when handling this product. Refer to Section 8 for additional information on personal protective equipment. See also American

Society for Testing and Materials (ASTM) Standard Practice E1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."



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8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

Cement, portland, chemicals ACGIH TLV (United States, 3/2012).

TWA: 1 mg/m³

8 hours. Form: Respirable fraction

NIOSH REL (United States, 6/2009).

TWA: 5 mg/m³

10 hours. Form: Respirable fraction

TWA: 10 mg/m³

10 hours. Form: Total

OSHA PEL (United States, 6/2010).

TWA: 5 mg/m³

8 hours. Form: Respirable fraction

TWA: 15 mg/m³

8 hours. Form: Total dust

Calcium oxide ACGIH TLV (United States, 3/2012).

TWA: 2 mg/m³

8 hours.

NIOSH REL (United States, 6/2009).

TWA: 2 mg/m³

10 hours.

OSHA PEL (United States, 6/2010).

TWA: 5 mg/m³

8 hours.

Limestone NIOSH REL (United States, 6/2009).

TWA: 5 mg/m³

10 hours. Form: Respirable fraction

TWA: 10 mg/m³

10 hours. Form: Total

OSHA PEL (United States, 6/2010).

TWA: 5 mg/m³

8 hours. Form: Respirable fraction

TWA: 15 mg/m³

8 hours. Form: Total dust

Magnesium oxide ACGIH TLV (United States, 3/2012).

TWA: 10 mg/m³

8 hours. Form: Inhalable fraction

OSHA PEL (United States, 6/2010).

TWA: 15 mg/m³

8 hours. Form: Total particulates

Quartz ACGIH TLV (United States, 3/2012).

TWA: 0.025 mg/m³

8 hours. Form: Respirable fraction

NIOSH REL (United States, 6/2009).

TWA: 0.05 mg/m³

10 hours. Form: respirable dust

OSHA PEL Z-3 (United States, 9/2005).

TWA: 10mg/m³

divided by %SiO₂ + 2: Respirable

TWA: 30mg/m³

divided by %SiO₂ + 2: Total



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Calcium sulfate (gypsum) ACGIH TLV (United States, 3/2012)

TWA: 10 mg/m³

8 hours. Form: Respirable fraction

NIOSH REL (United States, 6/2009)

TWA 5 mg/m³

8 hours. Form: Respirable fraction

TWA 10 mg/m³

8 hours. Form: Total dust

OSHA PEL Z-1 (United States, 2/2006)

TWA 5 mg/m³

8 hours. Form: Respirable fraction

TWA 15 mg/m³

8 hours. Form: Total dust Workplace Exposure: Limits (WEL): 8 hour Time Weighted Average (TWA): Portland Cement (CAS 65997151) 10mg/m³ total inhalable dust and 4 mg/m³ respirable dust per EH40.

Silica crystalline (CAS 14808607) 0.1mg/m³ respirable dust per EH40.

Appropriate engineering controls: If needed use local exhaust ventilation to keep dust concentration below limits cited in this Section.

Personal Protective Equipment

Respiratory Protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator

Eye/Face protection: To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended

Hand/Skin Protection: Use impervious, waterproof, abrasion and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get portland cement inside gloves.

Body protection: Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and longlegged clothing to protect the skin from contact with wet portland cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent portland cement from getting inside them. Do not get portland cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.

General Hygiene Considerations: Clean water should always be readily available for skin and (emergency) eye washing.

Periodically wash areas contacted by portland cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with portland cement, garments should be removed and replaced with clean, dry clothing. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

9 PHYSICAL / CHEMICAL PROPERTIES

Appearance: white powder

Physical State: solid

Color: white

Odor: Odorless

pH: 10-11

Melting Point: NA

Boiling Point: NA



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Flash point: Not applicable
Flammability (solid,gas): Not flammable
Explosive Properties: Not explosive
Vapor Pressure: Not applicable
Vapor Density (AIR=1): Not applicable
Density: NA
Solubility in water: Insoluble
Partition Coefficient (n-octanol/water): NOT APPLICABLE
Auto-ignition temperature: Not applicable
Viscosity: Not applicable

10 STABILITY and REACTIVITY

Reactivity: reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete

Chemical Stability: Stable under normal conditions

Hazardous Reactions: Stable under normal conditions

Conditions to avoid: dust generation

Incompatible materials: Quartz is incompatible with strong oxidizers such as hydrofluoric acid, fluorine, chlorine trifluoride, or oxygen difluoride.

Hazardous Decomposition.: No decomposition if stored and handled as prescribed/indicated

11 TOXICOLOGICAL INFORMATION

Acute Toxicity: Calcium Oxide-Yes

Chromium Ion (<0.2%)-yes

Nickel Compounds (<0.1%)-yes

Acute Oral Toxicity: NA

Acute Inhalation Toxicity: Prolonged or frequent breathing of excess dust may cause an adverse respiratory effect.

Chronic Toxicity: Autoimmune Diseases: There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. For a review of the subject, the following may be consulted:

“Occupational Exposure to Crystalline Silica and Autoimmune Disease”, Environmental Health Perspectives, Vol. 107, Supplement 5, pp. 793-802 (1999).

“Occupational Scleroderma”, Current Opinion in Rheumatology, Vol. 11: 490-494 (1999).

Tuberculosis: Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information:

Occupational Lung Disorders, 3rd Ed., Chapter 12, “Silicosis and Related Diseases,” Parkes, W. (1994).

“Risk of pulmonary tuberculosis relative to silicosis and exposure to silica dust in South African gold miners,” Occup. Environ. Med., Vol. 55: 496-502 (1998).

Kidney Disease: There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of kidney diseases, including end stage renal disease. For additional information on the subject, the following may be consulted:

“Kidney Disease and Silicosis”, Nephron, Vol. 85: 14-19 (2000).

Irritation: Skin: May cause skin irritation. May cause serious burns in the presence of moisture.

Eyes: Causes serious eye damage. May cause burns in the presence of moisture.

Respiratory: May cause respiratory tract irritation.



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Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Non-mutagenic

Carcinogenicity: Product/ingredient name OSHA IARC ACGIH NTP

Cement, portland, chemicals — — A4 —

Quartz — 1 A2 Known to be a human carcinogen. Silicosis: The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust.

Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low concentrations of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter characterize simple silicosis, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease. Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid

The International Agency for Research on Cancer (“IARC”) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources”, and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite.” The overall IARC evaluation was that “crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).” The IARC evaluation noted that “carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic

Risks to Humans, Volume 68, “Silica, Some Silicates...” (1997).

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Silica, Lake and Bank Sand; All Grades

NTP: The National Toxicology Program (NTP), in its Ninth Annual Report on Carcinogens, classified “silica, crystalline (respirable)” as a known human carcinogen.

OSHA: Crystalline silica (quartz) is not regulated as a human carcinogen by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

Reproductive toxicity: No known significant effects or critical hazards on reproduction.

Aspiration hazard: Dust is irritant to respiratory tract.

12 ECOLOGICAL INFORMATION

Ecotoxicity: Product/ingredient name Result Species Exposure

Calcium oxide Chronic NOEC 100 mg/L Fish—Oreochromis niloticus—Juvenile 46 days

Fresh water (Fledgling, Hatchling, Weanling)

Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential: Not applicable

Mobility in soil: Not applicable

Results of PBT and vPvB assessment: The substance does not meet the criteria to be identified as PBT or vPvB



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13 DISPOSAL CONSIDERATIONS

Disposal considerations: Dispose according to Federal, State, and Local regulations.

14 TRANSPORTATION INFORMATION

DOT: Not regulated, not dangerous good.

Transport by sea (IMO / IMDG): Not regulated. Not dangerous good

Air transport (ICAO/ IATA): Not regulated. Not dangerous good

15 REGULATIONS

Contents of this SDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

EPA SRA Title III Chemical Listings:

US Federal Regulations

TSCA Status: TSCA 6 final risk management: Chromium, ion (Cr6+)

United States inventory (TSCA 8b): Portland cements are considered to be statutory mixtures under TSCA.

CAS 65997-15-1 is included on the TSCA inventory Crystalline silica (CAS #14808-60-7) is listed on the EPA Toxic Substance Control Act (TSCA)

Section 8(b) inventory.

SECTION 302: None

SECTION 312

Acute: Calcium Oxide-Yes

Chromium Ion (<0.2%)-yes

Nickel Compounds (<0.1%)-yes

Chronic: Quartz (<0.2%)-yes yes

Chromium Ion (Cr6+) (<0.1%)-yes

Nickel Compound (<0.1%)-yes

Lead (<0.1%)-yes

Fire: None

Pressure: none

Reactive: None

SARA 313: Form R—Reporting requirements

Chromium, ion (Cr6+) 8540-29-9 < 0.1

Lead (Organic or Inorganic) — < 0.1

Nickel Compounds — < 0.1

Clean Water Act: Chromium, ion (Cr6+)

FDA: NA

US State Regulations

State regulations

Massachusetts: The following components are listed: cement, portland, chemicals, limestone

New York: None of the components are listed.

New Jersey: The following components are listed: cement, portland, chemicals, gypsum, limestone

Pennsylvania: The following components are listed: cement, portland, chemicals, gypsum, limestone

California Prop. 65



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

Quartz

Cancer: Yes.

Reproductive: No

No significant risk level: No

maximum acceptable dosage daily: No

Chromium, ion (Cr6+)

Cancer: Yes.

Reproductive: yes

No significant risk level: 0.001 µg/day (inhalation)

maximum acceptable dosage daily: 8.2 micrograms/day (ingestion)

Nickel Compounds

Cancer: no

Reproductive: no

No significant risk level: no

maximum acceptable dosage daily: no

Lead

Cancer: yes

Reproductive: yes

No significant risk level: 15 µg/day (ingestion)

maximum acceptable dosage daily: 0.5 micrograms/day (inhalation)

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This product contains crystalline silica (respirable) which is classified as a substance known to the State of California to cause cancer.

International regulations

International lists: Canadian Domestic Substances List (DSL): Portland cement is included on the DSL.

Mexico Inventory (INSQ): All components are listed or exempted Other:

IARC: Crystalline silica (quartz) is classified in IARC Group 1 Carcinogen.

European Inventory of Commercial Chemical Substances: Crystalline silica (quartz) is listed on EINECS

Inventory; the EINECS number for quartz: 238-878-4.

European Community Labeling:

Harmful Xn

Contains crystalline silica, quartz (238-878-4)

R48/20 Harmful: Danger of serious damage to health by prolonged exposure by inhalation

S22 Do not breathe dust

S38 In case of insufficient ventilation, wear suitable respiratory protection



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16 OTHER INFORMATION

Additional Information: This Safety Data Sheet complies with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HCS-2012) and its adaptation of United Nations 'Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.