



MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY INFORMATION		
Product Name: READY-MIX CONCRETE	WHMIS – CLASSIFICATION: D2A / D2B: MATERIALS CAUSING OTHER TOXIC EFFECTS E: CORROSIVE MATERIAL	
MANUFACTURER'S AND SUPPLIER'S NAME:		
GRAYMONT MATERIALS (NY) INC.	Administration Office :111, Quarry Road, Plattsburg, New York, 12901	
GRAYMONT (PORTNEUF) INC.	595, boul. Dussault, St-Marc des Carrières (Qc), G0A 4B0	
EMERGENCY TEL. No.: (613) 996 – 6666 CANUTEC (Canada) (800) 424 – 9300 CHEMTREC (US)		
Chemical Name Ready-Mix Concrete	Chemical Family Inorganic Compound	Chemical Formula N/A
Molecular Weight N/A	Trade Name and Synonyms Ready-Mix Concrete, Freshly Mixed Unhardened Concrete, Portland Cement with Sand and Gravel, Portland Cement Concrete	Material Use Concrete, construction

SECTION II - COMPOSITION AND INFORMATION ON INGREDIENTS								
Hazardous Ingredients	Approximate Concentration	C.A.S. Number	Exposure limits (mg/m ³)					
			OSHA PEL	ACGIH TLV	RSST VEMP	MSHA PEL (Note 6)	NIOSH REL	NIOSH IDLH
(Note 1)			(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 10/40h	(mg/m ³)
Portland Cement	5 to 30	65997-15-1	15 (total dust) 5 (respirable particulate) (50 mppcf)	10 (total dust)	10 (total dust) 5 (respirable dust)	10 (total dust)	10 (total dust)	5,000

(Note 1) : This MSDS covers many products. Individual composition of hazardous constituents will vary. (Note 2) : Composition varies naturally – typically contains high levels of quartz (crystalline silica). (Note 3) The exposure limits are for “other particulates” : Particulate matter containing no asbestos and less than 1 % crystalline silica. (Note 4) : OSHA PEL - Particulates Not Otherwise Regulated [PNOR]. (Note 5) ACGIH TLV - Particles Not Otherwise Specified [PNOS]. (Note 6): ACGIH TLV Version 1973 has been adopted by the Mine Safety Health Administration (MSHA) as the regulatory Exposure Standard. (Note 7) : Total Dust: MSHA PEL = 10mg/m3, for nuisance particulates listed in Appendix E of the 1973 ACGIH. TLV® booklet.

SECTION II - COMPOSITION AND INFORMATION ON INGREDIENTS (Cont'd)

Hazardous Ingredients	Approximate Concentration	C.A.S. Number	Exposure limits (mg/m ³)					
			OSHA PEL	ACGIH TLV	RSST VEMP	MSHA PEL (Note 6)	NIOSH REL	NIOSH IDLH
(Note 1)			(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 10/40h	(mg/m ³)
Sand & Gravel (Note 2) (Note 3)	60 to 100	None	15 (total particulate) 5 (respirable particulate) [PNOR]	10 (inhalable / total particles) 3 (respirable / particles) [PNOS]	10 (total dust)	10 (total dust) (Note 7) [DNOC]	N/A	N/A
Flyash	0 to 20	68131-74-8	N/A	N/A	N/A	N/A	N/A	N/A
Crystalline Silica, Quartz	60 to 100	14808-60-7	10/(%SiO₂)+2 respirable silica dust	0.025 respirable silica dust	0.1 respirable silica dust	10/(%SiO₂)+2 respirable silica dust	0.05 respirable free silica	50

SECTION III - PHYSICAL AND CHEMICAL DATA

Physical State Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input checked="" type="checkbox"/>	Odor and Appearance Gray slurry, granular paste. Odorless.		Odor Threshold (p.p.m.) Not applicable	Specific Gravity 1.9 – 2.4
Vapor Pressure (mm) Not applicable	Vapor Density (Air = 1) Not applicable	Evaporation Rate Not applicable	Boiling Point (°C) > 1000	Melting Point (°C) > 1000
Solubility in Water (20°C) Negligible	Volatiles (% by volume) Not applicable	pH (25 °C) 12 - 13	Bulk Density (kg/m ³) NA	Coefficient of water/oil distribution Not applicable

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability
 Yes No If yes, under which conditions?

Extinguishing Media
Ready-Mix Concrete does not burn. Use extinguishing media appropriate to surrounding fire conditions.

Special Fire Fighting Procedures
Ready-Mix Concrete is non-flammable. Wear adequate personal protection to prevent contact with material or combustion products when fighting any fire. Firefighters should use self-contained NIOSH approved breathing apparatus with full face piece to protect against the products of combustion.

Flash point (°C) and Method Not applicable	Upper flammable limit (% by volume) Not applicable	Lower flammable limit (% by volume) Not applicable
Auto Ignition Temperature (°C) Not applicable	TDG Flammability Classification Non-flammable	Hazardous Combustion Products None

Dangerous Combustion Products **None**

EXPLOSION DATA

Sensitivity to Chemical Impact Not applicable	Rate of Burning Not applicable	Explosive Power Not applicable	Sensitivity to Static Discharge Not applicable
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SECTION V - REACTIVITY DATA

Chemical Stability
 Yes No If no, under which conditions?

Incompatibility to other substances
 Yes No If so, which ones? **Wet unhardened concrete is alkaline and is incompatible with acids. Silicates react with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.**

Reactivity
 Yes No If so, under which conditions? **Silicates dissolve in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.**

Hazardous Decomposition Products **None**

Hazardous Polymerization Products **None.**

SECTION VI - TOXICOLOGICAL PROPERTIES

Route of Entry

Skin Contact Skin Absorption Eye Contact Acute Inhalation Chronic Inhalation Ingestion

Effects of Acute Exposure to Product:

Skin **Direct contact may cause abrasion of the skin and contact dermatitis, the symptoms of which may include (but are not limited to) reddening, irritation, and rash. More severe effects, including chemical (caustic) burns, third degree burns and skin ulcers may occur. Skin absorption is not expected to be a significant exposure route.**

Eyes **Contact may result in moderate eye irritation, chemical (caustic) burns, possible lesions and possible blindness when exposed for prolonged period. (Draize >80).**

Inhalation **This product is normally mixed, transported and used only when wet. This reduces the potential for dust exposure. After the product has dried and hardened, further handling or processing may generate dust. If inhaled in form of dust, possible nose throat and respiratory tract irritation. Coughing, sneezing and shortness of breath may occur following exposures in excess of appropriate exposure limits.**

Ingestion **Ingestion of small quantities of Ready-Mix Concrete is not known to be harmful. If ingested in large quantities may cause chemical (caustic) burns in the mouth, throat, stomach, and digestive tract.**

Effects of Chronic Exposure to Product:

Contact dermatitis. This product contains Crystalline Silica. Prolonged or repeated inhalation of respirable Crystalline Silica from this product can cause silicosis.

LD ₅₀ of Product (Specify Species and Route) Unavailable	Irritancy of Product Eyes, skin	Exposure limits of Product Unavailable
LC ₅₀ of Product (Specify Species) Unavailable	Sensitization to Product Sensitization to hexavalent chromium (Skin and Respiratory tract)	Synergistic materials None reported

Carcinogenicity Reproductive effects T ératogenicity Mutagenicity

Ready-Mix Concrete is not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP or IARC. However, it contains trace amounts of Crystalline Silica and Chromium hexavalent (VI) listed carcinogens by these organizations.

Crystalline Silica, which inhaled in the form of quartz or crystobalite from occupational sources, and Chromium hexavalent (VI), are classified by IARC as (Group 1) carcinogenic to humans.

Silica, crystalline (Airborne particles of respirable size) and Chromium hexavalent (VI) compounds are regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986. (Proposition 65).

NIOSH considers crystalline silica and chromic acid and chromates to be potential occupational carcinogens as defined by the OSHA carcinogen policy [29 CFR 1990]. NTP lists both respirable Crystalline Silica and Chromium hexavalent (VI) compounds as known to be human carcinogens based on sufficient evidence of carcinogenicity in humans.

ACGIH list respirable Crystalline Silica (quartz) as suspected human carcinogen (Group A-2) and Chromium hexavalent (VI) compounds as confirmed human carcinogen (Group A-1).

RSST list respirable Crystalline Silica (quartz) as suspected human carcinogen.

SECTION VII - PREVENTIVE MEASURES

Personal Protective Equipment (PPE) **Wear waterproof gloves, rubber boots, head protection and approved eye protection, and clothing sufficient to protect the skin from contact with fresh cement. Clothing saturated from contact with wet cement concrete should be removed promptly to prevent continued contact with skin.**

<p>Gloves (Specify) Waterproof gloves</p>	<p>Respiratory (Specify) Under ordinary conditions no respiratory protection is required when handling <u>unhardened</u> concrete. However, cutting, crushing or grinding <u>hardened</u> concrete will release respirable crystalline silica. Wear a NIOSH approved (N/R/P95) dust respirator when exposed to dust above exposure limits.</p>	<p>Eyes (Specify) ANSI, CSA or ASTM approved safety glasses with side shields. Do not wear contact lenses without tight fitting goggles when handling this chemical.</p>	<p>Footwear (Specify) Waterproof boots</p>
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<p>Clothing (Specify) Fully covering skin to protect the skin from contact with fresh cement.</p>	<p>Other (Specify) Evaluate degree of exposure and use PPE if necessary.</p>
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Engineering Controls (e.g. ventilation, enclosed process, specify)
Engineering Controls are ordinarily not required when working with unhardened concrete. Enclose dust sources; use exhaust ventilation (dust collector) or other engineering controls as required to keep airborne levels below recommended exposure limits. Use product only in well-ventilated areas.

Leak and Spill Procedure
Limit access to trained personnel. Avoid contact with skin. Unhardened concrete should be removed and placed into a container. Allow material to dry or solidify before disposal. Prevent spilled materials from inadvertently entering streams, drains, or sewers.

Waste Disposal
Dispose of waste materials in accordance with applicable federal, state, provincial and local environmental laws and regulations.

Handling Procedures and Equipment
Wear personal protective equipment (PPE) and apply adequate engineering controls. Avoid skin and eye contact with wet cement. Respirable crystalline silica-containing dust may be generated when hardened concrete is subjected to mechanical forces such as in demolition work and surface treatment. Minimize dust generation. Contact lenses should not be worn when working with this product.

Storage Requirements
Do not store near food and beverages.

Special Shipment Information
Ready-Mix Concrete is not regulated by the Transportation of Dangerous Goods (TDG) Regulations (Canada) nor the Hazardous Materials Regulations (USA).

SECTION VIII - FIRST AID MEASURES

Skin

Wash skin with cool water and a pH neutral soap or a mild skin detergent. Seek medical treatment for rash, burns, irritation, and dermatitis and in all cases of prolonged unprotected exposures to wet unhardened concrete. Remove all Ready-Mix Concrete-contaminated clothing. Wash work clothes after each use. Wash cement exposed skin with soap and water before eating, drinking. Contact a physician if irritation persists or later develops.

Eyes

Immediately rinse contaminated eye(s) with gently running lukewarm water (saline solution is preferred) for at least 15 minutes, while holding the eyelid(s) open. In the case of an embedded particle in the eye, or If irritation occurs or persists, consult a physician. Beyond flushing, do not attempt to remove material from the eye(s).

Inhalation

Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside. If victim does not breathe, give artificial respiration. Contact a physician immediately.

Ingestion

If victim is conscious, wash out mouth with water. Have conscious person drink several glasses of water. Do not induce vomiting. Contact a physician immediately. Never give anything by mouth to an unconscious or convulsing person.

General Advise

Consult a physician for all exposures except minor instances of inhalation.

SECTION IX - REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 (**SARA Title III**). / The Emergency Planning and "Community Right-to-Know" Act (**EPCRA**). / Comprehensive Environmental Response, Compensation and Liability Act (**CERCLA**). / Resource Conservation and Recovery Act (**RCRA**).

Component Ready-Mix Concrete has been reviewed against the following regulatory listings:

- **SARA Section 302 – Emergency Planning Notification. Extremely Hazardous Substances (EHS) List and Threshold Planning Quantity (TPQ). (40 CFR, Part 355, Section 30): Not listed.**
- **SARA Section 304 – Emergency Release Notification. Extremely Hazardous Substances (EHS) and Reportable Quantity (RQ) List. (40 CFR, Part 355, Section 40): Not listed.**
- **SARA Section 311/312 – Hazard Categories (40 CFR, Part 370): This product is regulated under CFR 1910.1200 (OSHA Hazard Communication) as Immediate (Acute) Health Hazards – Irritant.**
- **SARA Section 313 – Toxics Release Inventory (TRI). Toxic Chemical List (40 CFR, Part 372). Not listed.**
- **CERCLA – Hazardous Substance (40 CFR, Part 302): Not listed in Table 302.4.**
- **RCRA – Hazardous Waste Number (40 CFR, Part 261, Subpart D): Not listed.**
- **RCRA – Hazardous Waste Classification (40 CFR, Part 261, Subpart C): Not classified.**

CWA 311. - Clean Water Act List of Hazardous Substances.

Ready-Mix Concrete does not appear on the Clean Water Act (CWA) list of hazardous substances.

California Proposition 65.

Component Ready-Mix Concrete does not appear on the above regulatory listing. However, crystalline silica and Chromium are components of this product. Silica, crystalline (Airborne particles of respirable size) and Chromium (hexavalent compounds) are regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986. (Proposition 65)

Transportation – Hazardous Materials Regulations (USA) & Transportation of Dangerous Goods (TDG) Regulations (Can).

Ready-Mix Concrete does not appear on the above regulatory listings

Toxic Substances Control Act (TSCA).

All naturally occurring components of this product are automatically included in the USEPA TSCA Inventory List per 40 CFR 710.4 (b). Ready-Mix Concrete is exempt from reporting under the inventory update rule.

Canadian Environmental Protection Act (CEPA) – Substances Lists (DSL/NDSL).

Portland Cement, Quartz, Fly Ash components of this product, appear on the Domestic Substances List (DSL).


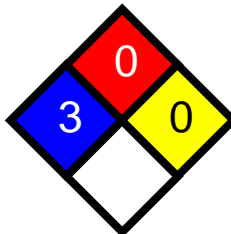
ANSI/NSF 60 - Drinking Water Treatment Additives.

Not applicable



FDA - U.S. Food and Drug Administration, Department of Health and Human Services.

Not applicable

SECTION X - OTHER INFORMATION

<p>Hazardous Materials Identification System (U.S.)</p>		<p>National Fire Protection Association (U.S.)</p> <p>Health Hazard</p> <p>NFPA has not assigned a rating to Ready-Mix Concrete.</p>	<p>Fire Hazard</p>  <p>Instability / Thermal Hazard</p> <p>Specific hazard</p>
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<p>WHMIS – Classification:</p> <p>“E” Corrosive Material.</p>	<p>WHMIS – Classification:</p> <p>“D2A and D2B”: Materials causing other toxic effects.</p>
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<p>Symbol:</p> 	<p>Symbol:</p> 
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Additional Information/Comments:

The technical data contained herein is given as information only and is believed to be reliable.

GRAYMONT makes no guarantee of results and assumes no obligation or liability in connection therewith.

Sources Used:

NFPA, TDG, CSST, RSST, (LSRO-FASEB), Hazardous Products Act, Environment Canada, Enviroguide, OSHA, ACGIH, IARC, NIOSH, CFR, NTP, HSDB, EPA SRS, MSHA, Geology of the nonmetallics.

SECTION XI - PREPARATION INFORMATION

<p>Prepared by:</p>	<p>Telephone number:</p>	<p>Date :</p>
<p>GRAYMONT (QC) INC. Technical Services</p>	<p>(450) 449-2262</p>	<p>September 2006</p>

An electronic version of this MSDS is available at: www.graymont.com under the PRODUCTS section.