



MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY INFORMATION		
Product Name: SAND & GRAVEL	WHMIS – CLASSIFICATION: D2A: MATERIALS CAUSING OTHER TOXIC EFFECTS	
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 Sand & Gravel	Chemical Family Inorganic Compound	Chemical Formula N/A
Molecular Weight N/A	Trade Name and Synonyms Sand, Masonry Sand, Concrete Sand, Gravel, Bank Run Gravel or Sand, Crushed Gravel, Filter Sand, Blacktop Sand	Material Use Aggregates

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	NIOSH REL	NIOSH IDLH
(Complex Mixture)	(% by weight)		(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 8/40h	(TWA) 10/40h	
Sand & Gravel	100	None	15 (total particulate) 5 (respirable particulate) [PNOR]	10 (inhalable / total particles) 3 (respirable / particles) [PNOS]	10 (total dust)	10 (Note 6) (total dust) [DNOC]	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 silica dust	50

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

SECTION III - PHYSICAL AND CHEMICAL DATA				
Physical State Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input checked="" type="checkbox"/>	Odor and Appearance Angular or round, tan to gray to brown particles ranging in size from dust to coarse sand less than 3/8" in size to gravels more than 6" in size to boulders. Odorless. Quartz generally occurs as rounded grains and is more prevalent in the finer grained sizes.		Odor Threshold (p.p.m.) Not applicable	Specific Gravity 2.6 – 2.75
Vapor Pressure (mm) Not applicable	Vapor Density (Air = 1) Not applicable	Evaporation Rate Not applicable	Boiling Point (°C) Not applicable	Melting Point (°C) Not applicable
Solubility in Water (20°C) Negligible	Volatiles (% by volume) Not applicable	pH (25 °C) N/A	Bulk Density (kg/m ³) 1000 - 1900	Coefficient of water/oil distribution Not applicable

SECTION IV - FIRE AND EXPLOSION HAZARD DATA		
Flammability Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, under which conditions?		
Extinguishing Media Sand and Gravel don't burn. Use extinguishing media appropriate to surrounding fire conditions.		
Special Fire Fighting Procedures Sand and Gravel are generally non-flammable, but ignites on contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Wear adequate personal protection to prevent contact with material or its combustion products. 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

SECTION V - REACTIVITY DATA		
Chemical Stability Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If no, under which conditions?	
Incompatibility to other substances Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If so, which ones?	Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions.
Reactivity Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If so, under which conditions?	Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.
Hazardous Decomposition Products		Silica-containing respirable dust particles may be generated by handling. When heated, quartz is slowly transformed into tridymite (above 860°C / 1580°F) and cristobalite (above 1470°C / 2678°F). Both tridymite and cristobalite are considered more fibrogenic to the lungs than quartz.
Hazardous Polymerization Products		Not known to polymerize.

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 irritation by mechanical abrasion. Skin absorption is not expected to be a significant exposure route.**

Eyes **Direct contact may cause eye irritation by mechanical abrasion with discomfort or pain, local redness and swelling of the conjunctiva.**

Inhalation **If inhaled in form of dust, may cause nose, throat, and respiratory tract, irritation by mechanical abrasion. Exposures in excess of appropriate exposure limits may cause coughing, sneezing and shortness of breath.**

Ingestion **Expected to be practically non-toxic. If ingested in large quantities may cause gastro-intestinal irritation and blockage.**

Effects of Chronic Exposure to Product:

Use of Sand and Gravel for construction purposes is not believed to cause additional acute toxic effects. However, repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain. Excessive inhalation of dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

LD ₅₀ of Product (Specify Species and Route) Unavailable	Irritancy of Product Eyes	Exposure limits of Product Unavailable
LC ₅₀ of Product (Specify Species) Unavailable	Sensitization to Product None	Synergistic materials None reported

Carcinogenicity Reproductive effects Tératogenicity Mutagenicity

Sand and Gravel are not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP, DFG, RSST or IARC. However, Sand and Gravel are composed of Quartz (Crystalline Silica) listed carcinogens by these organizations.

Crystalline Silica, which inhaled in the form of quartz or cristobalite from occupational sources, is classified by IARC as carcinogenic to humans. (Group 1)

Silica, crystalline (Airborne particles of respirable size) is regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Crystalline Silica is listed as a chemical known to the State to cause cancer.

NIOSH considers crystalline silica to be potential occupational carcinogen as defined by the OSHA carcinogen policy [29 CFR 1990]. (Ca).

NTP lists respirable Crystalline Silica as known to be human carcinogens based on sufficient evidence of carcinogenicity in humans. (K).

ACGIH lists respirable Crystalline Silica (quartz) as suspected human carcinogen. (A2).

DFG lists respirable Crystalline Silica as a substance that causes cancer in man (1)

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

SECTION VII - PREVENTIVE MEASURES	
Personal Protective Equipment (PPE)	Wear clean, dry gloves, full length pants over boots, long sleeved shirt buttoned at the neck, head protection and approved eye protection selected for the working conditions.
Gloves (Specify)	Gauntlets Cuff style.
Respiratory (Specify)	NIOSH approved respirator. For <u>respirable quartz levels</u> that exceed or are likely to exceed an 8-hr TWA of <u>0.1 mg/m³</u>, a NIOSH approved (N/R/P95) dust respirator is recommended. For respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of <u>0.5 mg/m³</u>, a NIOSH approved HEPA (N/R/P100) filter respirator is recommended. For respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of <u>5.0 mg/m³</u>, a NIOSH approved positive pressure (SAR), full face respirator or equivalent is recommended.
Eyes (Specify)	ANSI, CSA or ASTM approved safety glasses with side shields. Tight fitting dust goggles should be worn when excessive (visible) dust conditions are present. Do not wear contact lenses without tight fitting goggles when handling this chemical.
Footwear (Specify)	Usual protection
Clothing (Specify)	Fully covering skin.
Other (Specify)	Evaluate degree of exposure and use PPE if necessary.
Engineering Controls (e.g. ventilation, enclosed process, specify)	Enclose dust sources; use exhaust ventilation (dust collector) or other engineering controls at handling points to keep airborne levels below recommended exposure limits. Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.
Leak and Spill Procedure	Limit access to trained personnel. Do not dry sweep spilled material. Avoid raising dust. Ventilate area. Spilled material, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Wetting of spilled material and use of respiratory protective equipment may be necessary.
Waste Disposal	Pick up and reuse clean material. Dispose of waste materials in accordance with applicable federal, state, provincial and local environmental laws and regulations.
Handling Procedures and Equipment	This product is not intended or designed for use as an abrasive blasting material, and should not be used for abrasive blasting. Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. Minimize dust generation. Wear personal protective equipment (PPE) and apply adequate engineering controls. In cases of insufficient ventilation, use NIOSH approved anti-dust mask.
Storage Requirements	Do not store near food and beverages.
Special Shipment Information	Sandstone is not regulated by the Transportation of Dangerous Goods (TDG) Regulations (Canada) nor the Hazardous Materials Regulations (USA).

SECTION VIII - FIRST AID MEASURES

Skin

Carefully and gently brush the contaminated body surfaces in order to remove all traces of Sand and Gravel. Use a brush, cloth or gloves. Remove all Sand and Gravel-contaminated clothing. Wash work clothes after each use. Wash dust-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 source of dust or move victim to fresh air. Dust in throat and nasal passages should clear spontaneously. Obtain medical attention immediately. 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. 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**).

Components Sand and Gravel have been reviewed against the following regulatory listings:

- **Section 302 – Emergency Planning Notification. Extremely Hazardous Substances (EHS) List and Threshold Planning Quantity (TPQ). (40 CFR, Part 355, Section 30): Not listed.**
- **Section 304 – Emergency Release Notification. Extremely Hazardous Substances (EHS) and Reportable Quantity (RQ) List. (40 CFR, Part 355, Section 40): Not listed.**
- **Section 311/312 – Hazard Categories (40 CFR, Part 370): This product is regulated under CFR 1910.1200 (OSHA Hazard Communication).**
- **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.

Sand and Gravel don't appear on the Clean Water Act (CWA) list of hazardous substances.

California Proposition 65.

Components Sand and Gravel don't appear on the above regulatory listing. However, crystalline silica is a component of this product. Silica, crystalline (Airborne particles of respirable size) is regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986. (Proposition 65). Crystalline Silica is listed as a chemical known to the State to cause cancer.

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

Sand and Gravel don't 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). Sand and Gravel are exempt from reporting under the inventory update rule.

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

Quartz, a component of this product, is specified on the public Portion of 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.) NFPA 704</p> <p>Health Hazard</p> <p>NFPA has not assigned a rating to Sand and Gravel.</p>	<p>Fire Hazard</p> <p>Instability / Thermal Hazard</p> <p>Specific hazard</p>
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WHMIS Classification:
 "D2A" Materials causing other toxic effects.

Symbol:

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, RTECS, DFG, Geology of the nonmetallics.

SECTION XI - PREPARATION INFORMATION

Prepared by:	Telephone number:	Date :
GRAYMONT (QC) INC. Quality Assurance & Technical Services	(450) 449-2262	September 2009

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