

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: **Diversity Technologies Corp.** DATE: **November 14, 2017**
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PRODUCT NAME: **Calcium Carbonate**

PRODUCT USE: Drilling fluid and cement additive
 CHEMICAL FAMILY: Inorganic salt (calcium carbonate) CAS #: 471-34-1

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D2A
 WORKPLACE HAZARD: Potential carcinogen; may contain crystalline silica

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG.
 TDG CLASSIFICATION: Not applicable.
 UN NUMBER (PIN): Not applicable.
 PACKING GROUP: Not applicable.

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	% (w/w)	CAS NUMBER	LD ₅₀ Oral-Rat	LC ₅₀ Inhal-Rat	ACGIH-TLV
Calcium carbonate	60-100	471-34-1	6450 mg/kg	Not available	Not established
Crystalline silica, quartz	0.1-1.0 & 0.0-0.1*	14808-60-7	Not available	Not available	0.025 mg/m ³ respirable

** Concentration of crystalline silica in a series of lime products will vary from source to source. It was not detected on some samples (<0.1% w/w). Therefore two ranges are being disclosed.*

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: EYE CONTACT SKIN CONTACT INHALATION INGESTION
 EYE CONTACT: Dust or solid can cause mechanical irritation.
 SKIN CONTACT: May cause mild skin irritation. Repeated or prolonged contact may have a drying effect on the skin.
 INGESTION: May cause gastro-intestinal irritation.

INHALATION:	Dust may cause respiratory tract irritation. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation may cause irritation of the nose, throat and respiratory passages. Long-term inhalation may cause silicosis, a progressive, disabling and sometimes-fatal lung disease. Chronic inhalation exposure to crystalline silica quartz has been observed to cause lymph node effects, kidney effects and auto-immune disease.
CARCINOGENICITY:	Calcium carbonate is not listed by IARC, NTP, OSHA or ACGIH. However, these products could contain crystalline silica which when inhaled in the form of quartz from occupational sources is carcinogenic to humans: IARC has concluded that this chemical is carcinogenic to humans (Group 1); ACGIH has designated this chemical as a suspected human carcinogen (A2), and; NTP has listed this chemical as a known human carcinogen.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	Crystalline silica has been shown to cause mutagenic effects in human cells in-vitro.
SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Wash with soap and water. Remove contaminated clothing and launder before reuse. If irritation persists, or develops, obtain medical attention.
EYE CONTACT:	Rinse eyes with gently flowing warm water until particles are removed. If irritation persists, obtain medical attention
INGESTION:	No adverse effects expected. If irritation or discomfort occur, obtain medical advice immediately.
INHALATION:	Move to fresh air. Give oxygen or artificial respiration if required. If breathing difficulties or distress continues contact a physician.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	White to grey powder or granule; odourless
SPECIFIC GRAVITY:	2.65 – 2.75
BOILING POINT (°C):	Not applicable
MELTING POINT (°C):	Not applicable
SOLUBILITY IN WATER:	0.001% wt/wt @ 20°C pH: 9.4 (sat. sol'n)
PERCENT VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOUR PRESSURE (mmHg):	Not applicable
VAPOUR DENSITY (air = 1):	Not applicable
BULK DENSITY:	990 – 1900 kg/m ³

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not applicable
FLAMMABLE LIMITS:	Not applicable
EXTINGUISHING MEDIA:	Use media appropriate for packaging and surrounding materials.
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire-fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Calcium carbonate is generally non-flammable, but ignites on contact with fluorine.
HAZARDOUS COMBUSTION PRODUCTS:	No information available.

SECTION VII: REACTIVITY DATA

STABILITY:	<input checked="" type="checkbox"/> STABLE	<input type="checkbox"/> UNSTABLE
INCOMPATIBILITY (CONDITIONS TO AVOID):	Reacts with acids to liberate CO ₂ . Ignites on contact with fluorine. May have explosive reaction with magnesium.	
CONDITIONS OF REACTIVITY:	Contact with incompatible materials. Decomposes at 870°C.	
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon dioxide and calcium oxide.	
HAZARDOUS POLYMERIZATION:	<input checked="" type="checkbox"/> WILL NOT OCCUR	<input type="checkbox"/> MAY OCCUR

SECTION VIII: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Dust mask suggested. Use suitable respiratory protection if TLV's are exceeded.
VENTILATION:	Use local exhaust ventilation, process enclosure or other engineering controls as necessary to maintain dust levels below TLV.
PROTECTIVE GLOVES:	Rubber gloves.
EYE PROTECTION:	Suggest goggles.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Suggest a long sleeved shirt, trousers, and safety shoes. Ensure eyewash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid inhalation. Wear protective equipment to prevent skin and eye contact. Avoid creating dust. Store in cool, dry area away from incompatibles. Empty packages contain residual hazardous material and should be handled as if full.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Avoid creating excessive dust during cleanup. Material can be swept up or vacuumed. Collect uncontaminated material for repackaging. Collect contaminated material in appropriate container for disposal.

WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. This material is inert and can be landfilled in most locations; check with local operator. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

SECTION IX: PREPARATION

The information contains herein is given in good faith, but no warranty, expressed or implied, is made.

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