SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Limestone**

Synonym/s: **High Calcium Limestone; Hi-Cal Limestone; Calcium Carbonate; Calcite; Ag Lime**

Chemical Name: **Calcium Carbonate** **Chemical Formula:** **$CaCO_3$**

Product Use/s: pH adjustment, Mineral Filler, FGT, Construction, Agriculture, Aggregate, Steel

Manufacturer:	**US Operations:** Lhoist North America 3700 Hulen St. Fort Worth, TX 76107 817-732-8164	**Canadian Operations:** Lhoist North America of Canada, Inc. 20302-102B Ave. Langley, BC V1M 3H1 604-888-4333

Emergency Phone: **Chemtrec 1-800-424-9300**

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview: Limestone is an odorless white, grayish-white or tan material that ranges from pebble to a granular powder. Contact can cause irritation to eyes, skin, respiratory system, and gastrointestinal tract. Limestone reacts with acid to form CO_2.

Potential Health Effects

Eyes: Contact can cause irritation of eyes.

Skin: Contact can cause mild irritation of skin.

Ingestion: This product can cause mild irritation of gastrointestinal tract if swallowed.

Inhalation: This product can cause mild irritation of the respiratory system. Long-term exposure may cause permanent damage. Limestone is not listed by MSHA, OSHA, or IARC as a carcinogen. However, this product may contain trace amounts of crystalline silica in the form of quartz or crystobalite, which has been classified by IARC as a Group I carcinogen to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

Potential Environmental Effects: This material is alkaline and if released into water or moist soil will cause an increase in pH.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Chemical Formula	Common Name	Conc. (%)	CAS
Calcium Carbonate	$CaCO_3$	Limestone	**> 95**	**1317-65-3**
Crystalline Silica	SiO_2	Quartz	**< 2**	**14808-60-7**

(Crystalline Silica is reported as total silica and not just the respirable fraction)

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush eyes with generous amounts of water or eye wash solution if water is unavailable. Pull back eyelid while flushing to ensure that all limestone dust has been washed out. Seek medical attention promptly if the initial flushing of the eyes does not remove the irritant. Do not rub eyes.

Skin: Brush off or remove as much dry limestone as possible. Wash exposed area with large amounts of water. If burned seriously or if irritation persists, seek medical attention promptly.

Inhalation: Move victim to fresh air. Seek medical attention. If breathing has stopped, give artificial respiration.

Ingestion: Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

Medical Conditions Aggravated by Exposure: Contact may aggravate disorders of the eyes, skin, gastrointestinal tract, and respiratory system.

SECTION 5: FIREFIGHTING MEASURES

Fire Hazards: Limestone is not combustible or flammable. This product is not considered to be an explosion hazard, although reaction with incompatible materials, such as acids, may rupture containers.

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Fire Fighting Instructions: Keep personnel away from and upwind of fire. Avoid skin contact or inhalation of dust. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Hazardous Combustion Products: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill / Leak Procedures: Use proper protective equipment. Keep away from acids and other incompatible material.

Small Spills: Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Store collected materials in dry, sealed plastic or non-aluminum metal containers. Residue on surfaces may be water washed.

Large Spills: Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure. Store spilled materials in dry, sealed plastic or non-aluminum metal containers.

Containment: Minimize dust generation and prevent bulk release to sewers or waterways.

Clean-up: Residual amounts of material can be flushed with large amounts of water. Equipment can be washed with either a mild vinegar and water solution, or detergent and water.

SECTION 7: HANDLING AND STORAGE

Handling: Keep in tightly closed plastic or non-aluminum metal containers. Protect containers from physical damage. Avoid direct skin contact with the material. Avoid breathing any dust.

Storage: Store in a cool, dry, and well-ventilated location. Do not store near acids or other incompatible materials. Keep away from moisture. Do not store or ship in aluminum containers.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	OSHA PEL, TWA 8/40h (mg/m3)	ACGIH TLV, TWA 8/40h (mg/m3)	NIOSH REL, TWA 8/40h (mg/m3)	NIOSH IDLH (mg/m3)
Calcium Carbonate	**15** (total dust) **5** (respirable)	**10**	**10** (total dust) **5** (respirable)	**n/a**
Crystalline Silica	**10/(SiO2% + 2)** (respirable)	**0.025** (respirable)	**0.05** (respirable)	**50**

Engineering Controls: Provide ventilation adequate to maintain PELs.

Respiratory Protection: Use NIOSH/MSHA approved respirators if airborne concentration exceeds PELs.

Skin Protection: Use appropriate gloves and footwear to prevent skin contact and the potential for irritation.

Clothing should fully cover arms and legs.

Eye Protection: Use safety glasses with side shields or safety goggles.

Other: Eye wash fountain/stations and emergency showers should be available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White, grayish-white or tan lumps or powder	**Odor:** Odorless	**Physical State:** Solid

Melting Point (℃/℉): n/a	**Boiling Point (℃/℉):** n/a

Specific Gravity	3.0 - 3.4 g/cc

Vapor Pressure (mm Hg): n/a	**Vapor Density:** n/a	**Evaporation Rate:** n/a

pH (25℃/77℉): 8 - 9	**Solubility in Water:** Not readily soluble in water.

SECTION 10: STABILITY AND REACTIVITY

Stability: Chemically stable, but reacts vigorously with acids to form CO_2. Ignites on contact with Fluorine.

Hazardous Decomposition/ Products: Limestone decomposes at 950℃ / 1742℉ to produce c alcium oxide and CO_2.

Hazardous Polymerization: Does not occur

Incompatibility/ Conditions to Avoid: Limestone should not be mixed or stored with the following materials, due to the potential for vigorous reaction and release of heat:

Fluorine	Ammonium salts
Aluminum	Hydrogen
Magnesium	Acids

SECTION 11: TOXICOLOGICAL INFORMATION

An LD50 of 6450mg/kg (Rat, oral) has been identified for this product. Limestone is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica, which has been classified by IARC as carcinogenic to humans when inhaled in the form of quartz or crystobalite.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Because of the elevated pH of this product, it might be expected to produce some ecotoxicity upon exposure to certain aquatic organisms and aquatic systems in high concentrations.

Environmental Fate: This material shows no bioaccumulation effect or food chain concentration toxicity.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the U.S. Resource Conservation and Recovery Act (RCRA).

SECTION 14: TRANSPORTATION INFORMATION

Limestone is not classified as a hazardous material by US DOT and is not regulated by the

Transportation of Dangerous Goods (TDG) when shipped by any mode of transport.

SECTION 15: REGULATORY INFORMATION

U.S. EPA Regulations:

RCRA Hazardous Waste Number (40 CFR 261.33): not listed
RCRA Hazardous Waste Classification (40 CFR 261): not classified
CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311(b)(4); CWA, Sec. 307(a), CAA, Sec. 112
CERCLA Reportable Quantity (RQ), not listed
SARA 311/312 Codes: not listed
SARA Toxic Chemical (40 CFR 372.65): not listed
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): not listed, Threshold Planning Quantity (TPQ): not listed
All chemical ingredients are listed on the US EPA TSCA Inventory List.

OSHA/MSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): 5mg/M^3 TWA-8
MSHA: not listed
OSHA Specifically Regulated Substance (29 CFR 1910): not listed

State Regulations:

Consult state and local authorities for guidance. Components found in this product may contain trace amounts of inherent naturally occurring elements (such as, but not limited to arsenic and cadmium) that may be regulated under California Proposition 65 and other States regulations.

Canada:

WHMIS Classification: "D2A" Materials Causing Other Toxic Effects
Canada NDSL: Listed

SECTION 16: OTHER INFORMATION

Prepared By: **Lhoist North America, Technical Services**
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NFPA Hazard Class:	Health: 1	Flammability: 0	Reactivity: 0	
HMIS Hazard Class:	Health: 1	Flammability: 0	Reactivity: 0	Specific Hazard: ALK

Abbreviations:

N/A	Not Available or Not Applicable
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ACGIH	American Conference of Governmental Industrial Hygienists
TWA	Time Weighted Average
PEL	Permissible Exposure Limit
TLV	Threshold Limit Value
REL	Recommended Exposure Limit

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