



Prairie Mud Service Ltd.

"Serving Western Canada with 24 Hour Drilling Mud Service"

MSDS (Material Safety Data Sheet)

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: **Prairie Mud Service** DATE: Nov 6/09
738 6th Street PHONE: 306-634-3411
Estevan, SK S4A 1A4 FAX: 306-634-6694

PRODUCT NAME: **Hydrated Lime**
CHEMICAL NAME: Calcium Magnesium Hydroxide
CHEMICAL FAMILY: Alkaline earth hydroxide
CAHEMICAL
FORMULA Complex mixture – mostly CaMg(OH)_4 and $\text{Ca(OH)}_2\text{MgO}$
PRODUCT USE: Neutralization, Stabalization CAS #: 58398-71-3

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D2A/D2B Materials causing other toxic effects, E: Corrosive

SECTION II: PHYSICAL AND CHEMICAL DATA

Physical State Solid
Odor and Appearance Slight earthy odor, fine white powder
Specific Gravity: 2.2-2.6
Vapour Pressure (mm): Not applicable
Vapour Density (air=1) Not applicable
Evaporation Rate: Not applicable
Boiling Point (°C): Decomposes at 345
Melting Point (°C): Not applicable
Solubility in Water (20°C): 0.1g/100g Saturation
Volatiles (% by volume): Not applicable
pH (25°C): Sat. solution Ca(OH)_2 12.45
Bulk Density (kg/m^3): 400-650
Coefficient of water/oil dist. Not applicable

SECTION III: FIRE AND EXPLOTION DATA

Flammability: No
Extinguishing Media: Hydrated Lime does not burn, use extinguisher appropriate for material burning
Special Fire Fighting Procedure: Not applicable
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



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TDG Flammability Classification: Not applicable
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 IV: REACTIVITY DATA

Chemical Stability: Yes, absorbs carbon dioxide in the air to form calcium magnesium carbonate
Incompatibility to other substances: Boron tri-fluoride, chlorine tri-fluoride, ethanol, fluorine, hydrogen, fluoride, phosphorus, pentoxide; water and acids (violent reaction with generating heat and possible explosion in confined area.)
Reactivity: Yes, Reacts violently with Maleic Anhydride, strong acids. Reacts chemically with acids and many other compounds and chemical elements to form calcium and magnesium based compounds. Explosive when mixed with nitro organic compounds
Hazardous Decomposition Products: Calcium hydroxide decomposes and 540°C and magnesium Hydroxide decomposes at 345°C to produce calcium oxide, magnesium oxide and water.
Hazardous Polymerization Products: Will not occur

SECTION V: TOXICOLOGICAL PROPERTIES

Route of Entry:

Skin Contact Skin Absorption Eye Contact Acute Inhalation Chronic Inhalation Ingestion

Effects of Acute Exposure to Product:

Skin: Severe irritation of mucous and skin, removes natural skin oils
Eyes: Severe eye irritation, intense watering of the eyes, possible lesions, possible blindness when exposed for prolonged period. Eye irritation Data: Eye-Rabbit-10mg/24h – Severe.
Inhalation: If inhaled in form dust, irritation of breathing passages, cough, sneezing.
Ingestion: If ingested: pain, vomiting blood, diarrhea, collapse, drop in blood pressure (indicates perforation of esophagus or stomach)



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Effects of Chronic Exposure to Product:

Contact dermatitis. Following repeated or prolonged contact, this product can cause redness, desquamation, and fissures. This product may contain trace amounts of crystalline silica. Excessive inhalation of respirable crystalline silica dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

LD ₅₀ of Product:	Unavailable
Irritancy of Product:	Severe to moist tissues
Exposure limits of Product:	Unavailable
LC ₅₀ of Product:	Unavailable
Sensitization to Product:	None
Synergistic Materials	None reported

Carcinogenicity Reproductive effects Teratogenicity Mutagenicity

Hydrated Lime is not listed as a carcinogen. It may, however, contain trace amounts of Crystalline Silica listed as a carcinogen. Crystalline Silica, which inhaled in the form of quartz or cristobalite from occupational sources, is classified as carcinogenic to humans.

SECTION VI: PREVENTIVE MEASURES

Personal Protective Equipment:	Wear clean, dry gloves, full length pants over boots, long sleeved shirt buttoned at the neck, head protection and approved eye protection selected for working conditions.
Gloves (specify):	Gauntlets cuff style
Respiratory (specify):	Not available
Eyes (specify):	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):	Resistant to caustics
Clothing (specify):	Fully covering skin. Remove when wet or contaminated. Change daily.
Other (specify):	Evaluate degree of exposure and use PPE if necessary. After handling lime, employees must shower. If exposed daily, use oil, Vaseline, silicone base crème etc. to protect exposed skin, particularly neck, face, and wrists.
Engineering Controls:	Enclose dust sources; use exhaust ventilation (dust collector) at handling points, keep levels below max concentration permitted.
Leak and Spill Procedure:	Limit access to trained personnel. Use industrial vacuums for large spills. Ventilate area.
Waste Disposal:	Transport to disposal area or bury. Review Federal, Provincial, and local Environmental regulations.



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Handling Procedures and Equipment:	Avoid skin and eye contact. Minimize dust generation. Wear protective goggles and in cases of insufficient ventilation, use NIOSH approved dust respirator. An eye wash station and safety shower should be readily available where this material or its water dispersions are used. Contact lenses should not be worn when working with this chemical.
Storage Requirements:	Keep tightly closed containers in a cool, dry and well ventilated area, away from acids. Keep out of reach of children.
Special Shipment Information:	Hydrated Lime is not regulated by the Transportation of Dangerous Goods (TDG) Regulations nor the Hazardous Materials Regulations.

SECTION VII: FIRST AID MEASURES

Skin:	Carefully and gently brush the contaminated body surfaces in order to remove all traces of lime. Use a brush, cloth or gloves. Remove all lime-contaminated area with lukewarm water for 15 -20 minutes. If exposed area is large or if irritation persists.
Eyes:	Immediately rinse contaminated eye(s) with gently running lukewarm water (saline solution is preferred) for 15-20 minutes. In the case of an embedded particle in the eye, or chemical burn, as assessed by first aid trained personnel, contact a physician.
Inhalation:	Move source of dust or move victim to fresh air. Obtain medical attention immediately. If victim does not breathe, give artificial respiration.
Ingestion:	If victim is conscious, give 300ml (10oz) of water, followed by diluted vinegar (1 part vinegar, 2 parts water) or fruit juice to neutralize the alkali. Do not induce vomiting. Contact a physician immediately.
General Advice:	Consult a physician for all exposures except minor instances of inhalation.



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SECTION VIII: 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).

Hydrated Lime 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) Reportable Quantity (RQ). (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**
- RCRA – Hazardous Waste Number (40 CFR, Part 261, Subpart D): **Not Listed**
- RCRA – Hazardous Waste Classification (40 CFR, Part 261, Subpart C): **Not Classified**

Hydrated Lime does not appear on the Clean Water Act (CWA) list of hazardous substances

Hydrated Lime does not appear on the regulatory listings Transportation of Dangerous Goods (TDG) and Hazardous Material Regulations

Hydrated Lime is specified on the Non-Domestic Substances List

Drinking Water Treatment Additives – Not Applicable

FDA – Not Applicable

SECTION IX: PREPARATION

The above information is supplied as a customer service and is provided in good faith.

Although it has been based on data drawn from sources deemed to be reliable, Prairie Mud Service cannot guarantee its accuracy and assumes no responsibility for conditions resulting from its use..

DATE ISSUED: November 6, 2009

BY: Safety committee

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