# Renaissance Lime Putty

416 Lafayette St. Salem, MA 01970

**Material Safety Data Sheet**

Updated 1 July 2016

Slaked Lime Putty – Calcium Dihydroxide – Ca(OH)2 CAS # 1305-62-0

**Section 1. Company Identification**

Renaissance Lime Putty
416 Lafayette Street
Salem, MA 01970 USA
617 999 7259

**Section 2. Chemical composition**

| | |
|---|---|
| Form | Ca(OH)2 aqueous suspension |
| Color | White |
| pH | 12.4 (aqueous saturated solution at 20 C) |
| Solubility | 1.8 g/l (on dry) at 25 C |
| Bulk density | 1300-1400 kg/m3 |
| Free water | 47.3% |
| Loss on ignition (1050 C) | 60.6% |
| CaO + MgO | 97-99% |
| MgO | <0.1% |
| CO2 | -2% |
| SO3 | <0.1% |
| Impurities (SO2, Al2O3, Fe2O3) | <1% |

**Section 3. Hazard ID**

DANGER

Slaked Lime Putty is a strongly alkaline material but does not have acute toxicity in respect to oral, skin, or respiratory exposure. It is classified as an irritant for the skin and respiratory ways and presents a risk of serious eye injury. No deadly effects are suspected.

**Eyes**: Contact causes reduced visibility, irritation, and may cause severe corrosion.

**Skin:** Contact causes irritation and may cause burns to the skin.

**Inhalation:** Irritating to respiratory tract and can be damaging to the mucus membrane of the upper respiratory tract.

**Ingestion:** May be corrosive to the digestive tract. No chronic effects are known. **Chronic:** No chronic effects known

**KEEP OUT OF REACH OF CHILDREN**



**Section 4. First-aid measures**

Skin Contact: Take off immediately all contaminated clothing. Rinse skin with water for 15-20 min.
Eye Contact: Flush eyes with water for 15 min. including lids. **Call physician immediately.**
Inhalation: Remove person to fresh air and keep comfortable for breathing. Call physician.
Ingestion: **Immediately call physician**. Do not induce vomiting. Dilute by giving 2 glasses of water. Never give anything by mouth if victim is losing consciousness, unconscious or convulsing.

**Section 5. Firefighting Measures**

This product is non-combustible. It does not emit any toxic substance in case of fire.
In case of fire, use carbon dioxide, chemical powder agent and appropriate foam to extinguish surrounding products.
Fire fighters should avoid contact. Use self-contained breathing apparatus.

**Section 6. Physical and Reactivity Data**

Physical Appearance: White paste
Odor: none
PH 12.4
Relative density: 2.24
Boiling point: 100 C
Reactivity: Ca(OH)2 disassociates in aqueous media forming cations and hydroxyl anions
Chemical Stability: Stable at ambient temperatures and within normal application and storing conditions
Avoid: minimize exposure to air and humidity to avoid degradation
Incompatible materials: Ca(OH)2 reacts with acids to form salts
Hazardous decomposition products: none to our knowledge
Other: Ca(OH)2 reacts with Carbon Dioxide to form Calcium Carbonate

**Section 7. Accidental release measures**

For non-emergency personnel - Ensure adequate ventilation - Avoid release of dust as much as possible. - Keep away persons not wearing appropriate protective equipment. - Avoid all contact with skin, eyes and clothing – wear appropriate protective equipment. - Avoid inhaling dust – ensure adequate ventilation or wear respiration masks – wear appropriate protective clothing.
For emergency personnel - Avoid release of dust as much as possible - Ensure adequate ventilation. - Keep away persons not wearing appropriate protective equipment - Avoid all contact with skin, eyes and clothing–wear appropriate protective equipment. - Avoid inhaling dust – ensure adequate ventilation or wear respiration masks – wear appropriate protective clothing.
Precautions for the protection of the environment - Contain spillages. Keep product dry if possible. Use covers to avoid creation of dust, if possible. Avoid large, uncontrolled spillages into waterways and drains (pH increase). All spillages in waterways must be notified to the Environmental Agency or other competent Authority



**Section 8. Handling and Storage**

Protective measures - Avoid contact with skin, eyes and respiratory airways. Wear appropriate protective equipment (see Section 8 of this document). - Do not wear contact lenses when handling this product. It is also recommended to keep eye drops on hand. Keep formation or dispersion of dust to a minimum. Enclose dust sources and use extraction equipment (dust collection at handling point).
General advice on occupational hygiene - Avoid inhalation, ingestion and contact with skin and eyes. - Appropriate barrier creams can be used. - Wash hands after each manipulation. - General measures of hygiene at work are essential to ensure safe handling of the product. These include: - Good personal practices, regular cleaning of the place of work, no alcohol drinking, eating or smoking at the place of work. - Shower and change clothing at the end of work. Do not bring home any contaminated clothing. Separate work clothing from other clothing. Clean them separately.

Safe storing conditions :
Keep away from children reach.
Store in a dry place.
Bulk storage has to be in dedicated silos.
Incompatible materials: - Strong acids and azotate composites. - Organic matter.
Avoid contact with air and moisture.
Do not use aluminium for transport or storage if there is a risk of contact with water

**Section 9. Exposure Controls/Personal Protection**

Exposure Controls: To control potential risks, avoid generating dust. Wear protective equipment. Eyes protection equipment (goggles or visors for example) are necessary unless contact with the eyes is avoided by the nature and type of application (closed process for example). In any case protection of the face, protective clothing and safety shoes must be worn.
Appropriate technical controls: If the product application generates dust, use enclosures, local ventilation or other technical methods to maintain dust limits below the maximum recommended.
Individual protection measures and personal protective equipment: Eye and face protection Do not wear contact lenses. Wear tight fitting goggles with side shields or large vision full goggles. It is also recommended to carry eyewash.
Skin protection: As Calcium Dihydroxide is classified as irritant for the skin, dermal exposure has to be reduced to the minimum as much as possible. Chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact, must be worn during all handling operations. Wear protective clothes offering total protection for the skin (long trousers, long sleeves, close fitting at openings) and shoes resistant to caustic products.
Respiratory protection: Local ventilation is recommended to keep dust levels below indicated maximum values. Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirators if the exposure limits are unknown.
Thermal hazards: The product does not present any thermal hazards.

Environmental exposure controls: Before discharging into the atmosphere, filter all discharges from ventilation and other extraction systems. Contain spillages. All spillages in watercourses must be notified to the Environment Agency or other competent Authority

**Section 10. Toxicology**

**Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)** When this product is humid or mixed with water – Causes severe skin burns and eye damage. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).

**Symptoms related to the physical, chemical and toxicological characteristics** Skin irritation, redness, stinging, pain; Eye irritation, redness, tearing.

**Delayed and immediate effects (chronic effects from short-term and long-term exposure)**

**Respiratory or skin sensitization** - No data available. Based upon the known effects (pH modification) and on the basic human need for calcium in food, calcium dihydroxide is considered as not producing a sensitization effect to the skin. None of its components are known to have a sensitization effect. The definition "sensitizing" is not justified.

**Germ cells mutagenicity** Bacterial reverse mutation tests (Ca(OH)2 and CaO, Tests d'Ames, OCDE 471) : negative. Mammalian chromosome aberration test [Ca(OH)2]: negative. By cross reference these results are applicable to Calcium Dihydroxides. None of the components of calcium dihydroxide is known as genotoxic. Considering the pH effect, there is no mutagenicity. The definition "genotoxic" is not justifiable.

**Carcinogenicity** None known

**Reproductive Toxicity** Calcium (administered as Ca-carbonate) is not toxic to reproduction (experimental studies on mice). The pH effect does not present a risk to reproduction. Clinical studies on humans and animals with different calcium slats have not shown any effect on reproduction or developmental. Calcium Dihydroxides are not toxic for reproduction or development. The definition "toxic to reproduction" is not justified.

**Specific toxicity for target organs (STOT)-single exposure** Calcium dihydroxide does not have specific toxicity for any exposure medium (dermal, oral, inhalation)

**Specific toxicity for target organs (STOT)-repeated exposure** The toxicity of Calcium ingested is specified by the maximum tolerable limit (UL) for adults: UL = 2500 mg of Ca corresponding to 36 mg of Ca per kg of body weight for an adult weighing 70kg. The toxicity of Calcium Dihydroxide by skin absorption is not considered pertinent due to its insignificant absorption and the primary effect of local irritation (effect pH). The toxicity due to inhalation (localized effects, mucous irritation) due to the CaO and the Ca(OH)2 is determined by SCOEL (Scientific Committee on exposure levels) as follows: DNEL = 1 mg / $m^3$ breathable dust (see section 8.1) and VLEP (8h) = 1 mg / $m^3$. The definition "toxic after repeated exposure" is not justified.

**Hazards due to ingestion** Ingesting large quantity causes burns in the mouth, esophagus, digestive track, nausea and vomiting.



**Section 11. Ecological**

Eco toxicity (aquatic and terrestrial information)

*Toxicity* In water environment and in the soil, exposure to Calcium dihydroxide means exposure to Calcium and hydroxide ions.

*Acute/chronic toxicity to fish* LC50 (96h) for fresh water fish : 50,6 mg/l (Calcium dihydroxide) LC50 (96h) for Salt water fish : 457 mg/l (Calcium dihydroxide)

*Acute/chronic toxicity to aquatic invertebrates* EC50 (48h) for fresh water invertebrates : 49,1 mg/l (Calcium dihydroxide) EC50 (96h) for salt water invertebrates: 158 mg/l (Calcium dihydroxide)

*Acute/chronic toxicity to aquatic plants* EC50 (72h) for fresh water plants : 184,57 mg/l (Calcium dihydroxide) NOEC (72h) for salt water plants : 48 mg/l (Calcium dihydroxide)

*Toxicity to micro-organisms such as bacteria* In high concentration because of increases in temperature and pH, calcium oxide is used for the disinfection of sewage sludges

*Chronic toxicity to aquatic organisms* NOEC (14d) for seawater invertebrates : 32 mg/l (Calcium dihydroxide) *Toxicity to soil dwelling organisms* EC10/LC10 or NOEC for soil macro organisms : 2000 mg/kg of dry soil (Calcium dihydroxide) EC10/LC10 or NOEC for soil micro organisms : 12000 mg/kg of dry soil (Calcium dihydroxide)

*Toxicity to terrestrial flora* NOEC (21d) for terrestrial plants : 1080 mg/kg (Calcium dihydroxide)

*General effects* The product modifies the pH Although this product is useful for the modification of the pH of the water (acidity reduction), a dosage of over 1g/l can be harmful to aquatic life A pH value > 12 will decrease rapidly due to dilution and carbonation *Persistence and degradability* Not relevant (inorganic substance) *Bioaccumulative potential* Not relevant (inorganic substance)

*Mobility in soil* Calcium dihydroxide reacts with moisture and/or Carbon dioxide forming Calcium Carbonate and water $Ca(OH)2 + CO2$ $CaCO3 + H2O$ which is sparingly soluble presenting a low mobility in most soils

*Results of PBT and vPBvB evaluations* Not relevant (inorganic substance)

**Section 12. Disposal**

Dispose of contents/containers into safe container in accordance with local, regional or national regulations

**Section 13. Regulatory**

United States OSHA information: This product is regulated according to OSHA (29 CFR).

United States EPA (Environmental Protection Agency) information: 40 CFR Refer to the ingredients listed in Section 3 & Sections 12; 13 & 14.

United States TCSA information: Refer to the ingredients listed in Section 3.

National Fire Protection Association (NFPA):

HEALTH: 3 FLAMMABILITY: 0 INSTABILITY: 0 SPECIAL HAZARDS: Refer to Section 2 & 3.

HAZARD SCALE: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe California Proposition 65: This product contains Silica, Crystalline (Quartz) that is known to the State of California to cause cancer or other reproductive harm