# MISSISSIPPI LIME COMPANY - SAFETY DATA SHEET

## Section 1: Identification

### Calcium Hydroxide Ca(OH)2

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| **Product Line** | **MicroCal** – HF, HFT20, HM, HS, Low Al; **PetroCal** – HF, HM, HS; **Standard Hydrated** - Lime, CG, FGT, HR, HRH, HRH-64, SP, Slik Type S; **Liquid Calcium Hydroxide** (LCH); **MP Liquid Calcium Hydroxide** (MPLCH); **VitaCal** – H, LCH; **Architectural Lime Putty; Enhanced** |
| **Product Uses** | Building material industry, Chemical industry, Agriculture, Biocide applications, Environmental protection (e.g. flue gas treatment, waste water treatment, sludge treatment), Drinking water treatment, Feed, food and pharmaceutical industry, Civil engineering, Paper and paint industry, Glass industry, Leather. |
| **Manufacturer** | **Mississippi Lime Company 16147 US Highway 61, Ste Genevieve, MO 63670** |

**24 Hour Emergency Contact Number: (800) 437-5463**

## Section 2: Hazard(s) Identification

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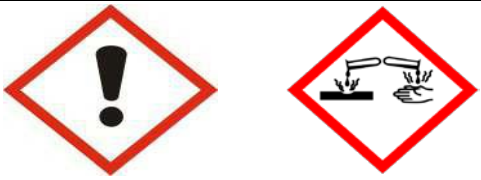
| **Signal Word** | **WARNING !** |



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|---|---|
| **HAZARD** | **H 315: Causes skin irritation**<br>**H 319: Causes serious eye irritation**<br>**H 335: May cause respiratory irritation** |
| **PRECAUTIONARY STATEMENTS** | **PREVENTION**<br>**P 102: Keep out of reach of children.**<br>**P 261: Avoid breathing dust.**<br>**P 280: Wear protective gloves/ protective clothing/ eye protection/ face protection.**<br>**P 402: Store (dry product) in dry place**<br>**P 501: Dispose of contents / container in accordance with... regulations.** |
| | **RESPONSE**<br>**P 302 + P 352: IF ON SKIN: Wash with plenty of soap and water.**<br>**P 304 + P 340: IF INHALED: Remove victim to fresh air and keep at rest and comfortable.**<br>**P 305 + P 351: IF IN EYES: Rinse cautiously with water for several minutes.**<br>**P 305 + P 337 + P 313: IF IN EYES: If eye irritation persists, Get medical advice/attention**<br>**P 301 + P 330 + P 331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting** |
| **WHMIS** | Class "D2A" Chronic Toxicity/Carcinogenicity (if qrtz >0.1%) and Class "E" (Corrosive) Skin |
| **Other Hazards** | In contrast to the dry powder, calcium hydroxide, when diluted with water, can produce severe skin damage in humans (alkaline burns), especially with prolonged skin contact. |

## Section 3: Composition/Information on Ingredients

| Ingredient | CAS ID | EC ID | | Concentration |
|---|---|---|---|---|
| Calcium Hydroxide Ca(OH)2 | 01305-62-0 | 215-137-3 | | 96.0 to 97.2 % |
| Calcium Carbonate | 0471-34-1 | 207-439-9 | | 0.65 to 1.75 % |
| Magnesium Oxide | 01309-48-4 | 215-171-9 | | 0.40 to 0.55 % |
| Calcium Sulfate | 07778-18-9 | 231-900-3 | | 0.05 to 0.10 % |
| Total Silica (SiO2) | 7631-86-9 | 238-878-4 | | 0 to 1.5% |

## Section 4: First-Aid Measures

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| **Eye Contact** | Irritation - Irrigate eyes with water immediately for at least 15 minutes. Consult a doctor. |
| **Skin Contact** | Irritation - Wash affected area with water. Change out of contaminated clothing when practical. |
| **Ingestion** | Wash mouth and drink copious quantities of water. Do not induce vomiting. Consult a doctor. |
| **Inhalation** | Irritation - Move victim to fresh air and treat for discomfort. Consult a doctor if difficult breathing. |
| **Medical** | No delayed effects. Treat symptomatically. |

## Section 5: Fire-Fighting Measures

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| **Flammability** | Nonflammable and noncombustible. |
| **Extinguishing Media** | Use dry powder, foam or CO2 extinguishers to fight surrounding fire. |
| **Special hazards** | None. |
| **Advice for fire-fighters** | Wear appropriate personal protective equipment. |

## Section 6: Accidental Release Measures

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| **Precautions** | Avoid contact with skin and eyes and keep dust levels to a minimum. Ensure adequate ventilation and/or suitable respiratory protective equipment (Section 8). |
| **Environmental** | Control and minimize releases to watercourses and storm drains. Notify Environmental agencies of significant spillage into water. |
| **Containment** | Contain spillage and keep material dry and covered if possible to minimize dust hazard. |
| **Clean-up** | Keep material dry if possible. Use vacuum systems, if available, and/or broom and shovel. Use salvage drums for dry and wet collection. |
| **Disposal** | Check Federal State and Local restrictions or recycle and reuse for beneficial applications. |

## Section 7: Handling and Storage

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| **Precautions for Safe Handling** | Avoid excessive dust in work area and ensure adequate ventilation.<br>Use dust mask when appropriate.<br>Avoid contact with skin and eyes. Use appropriate eye protection.<br>Avoid extended contact with skin and clothing.<br>Avoid ingestion and contact with food. |
| **Precautions for Safe Storage** | Keep product dry and bags and containers stored in dry and well-ventilated location place. Store bulk in dry properly designed bins and silos. Keep out of reach of children. |
| | Calcium hydroxide will react with air, strong acids and moisture. |

## Section 8: Exposure Control / Personal Protection

| Ingredient | CAS | Concentration | Exposure Limit (mg/m3) | | | |
|---|---|---|---|---|---|---|
| | | | OSHA PEL (TWA) 8/40h | ACGIH TLV (TWA) 8/40h | MSHA/PEL (TWA) 8/40h | NIOSH REL (TWA) 10/40H |
| **Calcium Hydroxide Ca(OH)2** | 1305-62-0 | Solids 95-100% (Dry Basis) | 15 T / 5 R | 5 | 5 | 10 T / 5 R |
| **Crystalline Silica SiO2** | 14808-60-7 | < 0.1% or 0.1 - 0.5% | T= 30(%$SiO_2$)+2<br>R=10/(%$SiO_2$)+2 | R= 0.025 | T= 30 (%$SiO_2$)+2<br>R=10 / (%$SiO_2$)+2 | R=0.05 |

Calcium Hydroxide is not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP, DFG, RSST or IARC. However, Crystalline Silica may be present below or above detection levels <0.1%. Occupational exposure is dependent upon the handling method and specific application. Two ranges are disclosed for (T) Total Dust and (R) Respirable Dust

| Derived No Effect Lvl (DNEL): | Predict No Effect Con (PNEC): | Biological Limit |
|---|---|---|
| No information available | No information available | Not established by ACGIH or manufacturer |

## Section 8: Exposure Control / Personal Protection (continued)

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| **Engineering Control Measures** | **Ventilation** - Ensure adequate ventilation in workplace - especially in confined areas. Evaluate degree of exposure and apply appropriate PPE as necessary. |
| | **Dust Control -** Use exhaust ventilation (dust collector) or other engineering controls at handling points to keep airborne levels below recommended exposure limits and/or wear personal protective equipment. |
| | **Eye Wash** - Keep emergency eye wash supplies at the workplace. |
| **Personal Protective Equipment** | **Eye Protection -** ANSI,CSA or ATM approved glasses with side-shields. Tight fitting dust goggles should be worn when excessive (visible ) emissions are present. Do not wear contact lenses without tight fitting goggles when handing this product. |
| | **Hand Protection -** Wear dry protective gloves and apply barrier cream as required. |
| | **Skin Protection -** Cover skin to minimize direct contact. |
| | **Footwear** - Boots resistant to alkaline material. Prevent dust penetration into socks and boots. |
| | **Respiratory Protection** - Follow OSHA respirator guidelines found in 29 CFR 1910.134 or European Standard EN 149. Use NIOSH/MSHA or European Standard EN 149 approved respirators if exposure threshold limits are exceeded or irritation is experienced. |
| **Hygiene** | Handle product in accordance with good industrial hygiene and safety practice. Wear clean, dry personal protective equipment. Barrier cream will reduce dryness and irritation. Heavily exposed workers should shower immediately and apply barrier cream to neck, face and wrists. |
| **Environmental** | Ventilation systems should be filtered before discharge to atmosphere. |

## Section 9: Physical and Chemical Properties

| **Physical State** | **Formula** | **Color** | **Stability** | **Flammability** | **Explosivity** | **Flash Pt** |
|---|---|---|---|---|---|---|
| Solid / Powder | Ca(OH)2 | Off white | Reactive | Non-flammable | Not flammable | Non-Combustible |
| **Solu. ($H_2O$)** | **Volatiles** | **Density** | **Bulk Density** | **Sp. Gravity** | **Vapor Press** | **Boiling Pt** |
| 1650 mg/L 20C | 0% | 200-500 kg/m3 | 220-690 kg/m3 | 2.2- 2.7 g/cm3 | NA | NA |
| **Freezing Point** | **pH @ (25C)** | **Melting Pt** | **Self Ignition T** | **Dust Defrag Kst** | **Vapor Density** | **Viscosity** |
| NA | 12.45 | 580 $^{o}$C | NA | NA | NA | NA |
| **Partition CoeF** | **Odor** | **Evaporation** | **Decomp.** | **Additives** | | |
| NA | Odorless | NA | 540 °C 1076 °F | NA | | |

## Section 10: Stability and Reactivity

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| **Reactivity** | Ca(OH)2 dissociates in aqueous media forming calcium cations and hydroxyl anions |
| **Stability** | Under normal conditions of use and storage, calcium hydroxide is stable |
| **Hazardous** | Reacts exothermically with acids |
| **Incompatibility** | Strong acids, phosphorus, maleic anhydride, nitro methane, nitro ethane, nitroparaffins, nitro propane, boron tri-fluoride, chlorine tri-fluoride, ethanol, fluorine, hydrogen fluoride, phosphorous pentoxide some metals |
| **Decomposition** | None - Calcium hydroxide reacts with carbon dioxide to from calcium carbonate |

## Section 11: Toxicological Information

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| **Acute** | Routes of Entry - Skin Contact, Eye Contact, Acute Inhalation, Ingestion |
| **Skin** | Irritating and drying to skin -depending on exposure , moisture and duration of contact. Long sleeve clothing and gloves recommended. |
| **Eyes** | Hazardous with eye contact (as irritant and high alkalinity). Possible lesions and blindness if left untreated for prolonged period.. Wear appropriate eye protection (goggles) and avoid wearing contact lenses. Standard Draize (Rabbit) - 10 mg/24 hr - Severe |
| **Inhalation** | Potentially hazardous. Respiratory irritation /inflammation of mucous membranes, , coughing and sneezing The extent of damage depends on amount inhaled. Wear appropriate dust mask |
| **Ingestion** | May cause gastro-intestinal irritation and pain, vomiting, diarrhea, drop in blood pressure. Extent of damage depends on amount ingested. Rat- LD50: 7340 mg/kg |
| **Sensitization** | No sensitizing effects known. |
| **Chronic** | Contact dermatitis. |
| **Carcinogenicity** | No carcinogenicity data is available for this product. Calcium hydroxide is not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP, DFG, RSST or IAARC. |

## Section 12: Ecological Information

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| Toxicity - Aquatic toxicity severe in high concentrations from high alkalinity ( pH -12.454) in concentrations > 1 gram/Liter. |
| Persistence and degradability - Not relevant for inorganic substances |
| Ecological information - Not relevant information available. |
| Other information - The product is not biodegradable. |
| Bioaccumulative potential - Not relevant for inorganic substances |
| Mobility in soil - Low solubility and mobility in most ground conditions |
| Additional information - Product generally nonhazardous at low concentrations. Frequently used in water treatment |
| PBT and vPvB assessment - Not relevant for inorganic substances |
| Other adverse effects - No further relevant information available. |

## Section 13: Disposal Considerations

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| Recover uncontaminated product where possible and reutilize or recycle for other beneficial purposes. |
| Dispose of containers and unused products as a solid waste in accordance with Federal, State and local requirements. |
| Processing, use or contamination of this product may change the waste profile characteristics and waste management options. Although not a listed RCRA hazardous waste, calcium hydroxide may exhibit high alkalinity and require refined analysis to |

## Section 14: Transport / Shipping Information

**Calcium hydroxide is not regulated as a hazardous material by the Canadian Transportation of Dangerous Goods (TDG) Regulations or by the US Department of Transportation. (US DOT)**

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| UN Number - Non dangerous product - **Not Listed** | UN Proper Shipping Name - **Not Classified** |
| DOT Hazard Class - **Not Classified** | Packing Group Number - **Not Classified** |
| International Marine Dangerous Goods (IMDG) - **Not Subject** | IATA - **Not Subject** |

Regulations governing the carriage of chemicals by ship are contained in the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Marine Pollution from Ships, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). - Not regulated

## Section 15: Regulatory Information

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| **SARA 302/304** | Emergency Planning and Release Notification - **Not Listed.** |
| **SARA 311** | Hazard Categories (40 CFR 370) - Regulated under OSHA HazCom - **Acute & Chronic.** |
| **SARA 312** | Emergency Planning and Release Notification - **Not Listed.** |
| **SARA 313** | Toxic Release Inventory (TRI) Chemical List - **Not Listed.** |
| **CERCLA** | Hazardous Substances (Table 302.4) - **Not Listed.** |
| **TSCA/DSL** | Toxic Substance Control Act, Canada DSL and most International Chemical Inventories - **Listed.** |
| **RCRA** | Hazardous Waste Number and Classification - **Not Listed or Classified.** |
| **WASTE** | Not subject to RCRA and generally acceptable at landfills as a “special waste” . Product can often be beneficially reused or recycled for other purposes. |
| **CONEG** | Council of NE Governors -Materials and inks used to manufacture packaging - **Compliant** |
| **CWA 311** | CWA list of hazardous substances- **Not Listed.** Calcium hydroxide contains alkaline material potentially toxic to aquatic life at high concentrations. |
| **US DOT** | U.S. Dept. of Transportation - **Not Regulated.** |
| **SPILLS** | Sweep up dry spillage where possible and minimize flushing with water. |
| **FDA** | Calcium hydroxide is generally recognized as safe (GRAS) by FDA 21 CFR 184.1205. |
| **PROP 65** | Subject to California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) warning and labeling requirements based on presence of listed trace metals & silica (at or below detection levels) **"known to the State of California to cause cancer."** Non-detectable concentrations are reported at 1/2 the detection level. |
| **NAFTA** | Product classified as HS Tariff No 2822.50 OR 2825.90; Preference Criteria A; 100% US Origin. |
| **EU REACH** | Product pre-registered # 5-2116374587-30-0000. Contact Customer Service for restrictions. |

## Section 16: Other Information /Disclaimer

Mississippi Lime Company provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular application or purpose.

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