

TAMAX-SDS-01 — Safety Data Sheet for Hydrated Lime

TAMAX VENTURES LTD. — SAFETY DATA SHEET (SDS)

- **Document ID:** TMX-SDS-01
- **Chemical Name:** Calcium Hydroxide — Ca(OH)_2
- **Trade Name / Product:** SUPERCALCO 95 / Hydrated Lime (Slaked Lime, Chemical Lime, Mason's Lime)
- **Company:** Tamax Ventures Ltd. (Kansarawdo Mampong Road, Yankey Junction, Takoradi, Ghana)
- **Emergency Contact (Ghana):** 191 (National Fire/Ambulance services) or +233-31-2092199

SECTION 1: Chemical Product & Company Identification

- **Synonyms:** Calcium dihydroxide, Slaked lime, Building lime, Chemical lime, Hydrated lime.
- **Chemical Formula:** Ca(OH)_2
- **CAS Number:** 1305-62-0 | **EINECS Number:** 215-137-3 | **Molecular Weight:** 74.09 g/mol
- **Primary Uses:** Municipal water treatment, B2B chemical neutralization, agricultural soil conditioning, structural mortars, and dampness-proofing breathable wall systems.

SECTION 2: Composition / Information on Ingredients

- **Major Ingredient:** Calcium Hydroxide (Ca(OH)_2) obtained from high-purity limestone minerals.
- **Trace Constituents:** Small quantities of Calcium Carbonate (CaCO_3), Calcium Oxide (CaO), Magnesium Oxide (MgO), Silicon Oxide (SiO_2), Aluminium Oxide (Al_2O_3), and Iron Oxide (Fe_2O_3). Purity fluctuates based on raw natural deposit mineral origins.

SECTION 3: Hazards Identification

[!WARNING] Xi — IRRITANT STATUS

- **R37:** Highly irritating to the respiratory system.
- **R38:** Irritating to skin, particularly in the presence of moisture/sweat.
- **R41:** Risk of serious, irreversible eye damage.
- **Alkaline Burns Warning:** When mixed with water or body sweat, dry hydrated lime forms a highly alkaline solution (pH 12.4) that can cause severe, deep chemical skin burns and eye damage upon prolonged contact.

SECTION 4: First Aid Measures

Eye Exposure

- **Action:** Immediately flush eyes with large quantities of fresh running water (or saline solution) for **15 to 20 minutes**. Ensure eyelids are held wide apart. Remove contact lenses immediately if present.
- **Target:** Prevent cornea damage. **Seek immediate medical attention.**

Inhalation

- **Action:** Move the affected person to fresh air immediately. If breathing is difficult, administer oxygen. If coughing and chest pain persist, **seek immediate medical attention.**

Skin Contact

- **Action:** Dry-brush the loose powder gently off the skin surface first. Wash the contaminated area immediately with large volumes of fresh water for **15 to 20 minutes**. Remove all contaminated clothing. If skin irritation, blistering, or chemical burns occur, consult a physician.

Ingestion

- **Action:** Rinse the mouth thoroughly with water. Drink copious amounts of fresh water. **Do NOT induce vomiting.** Seek immediate medical attention.

SECTION 5: Fire-Fighting Measures

- **Flammability:** The substance is **strictly non-flammable** and non-combustible. It acts as an active flame retardant.
- **Extinguishing Media:** The product does not burn. Use extinguishing media appropriate for the surrounding fire (Dry Powder, Foam, CO₂).
- **Thermal Decomposition:** When heated above **580°C**, Calcium Hydroxide decomposes into Calcium Oxide (CaO) and Water (H₂O), releasing heat and steam.

SECTION 6: Accidental Release Measures

- **Personal Precautions:** Wear full protective gear (Section 8). Keep dust levels to an absolute minimum. Avoid inhaling dust.
- **Environmental Precautions:** Contain the dry spillage. Do not allow untreated lime dust to enter waterways, municipal drains, or sewers, as it causes a rapid, toxic rise in water pH. Report spills exceeding local limits to the Ghana Environment Protection Agency.
- **Spill Cleanup:** Keep the spilled material dry if possible. Pick up dry powder mechanically utilizing vacuum systems or shovels. Store in bags for recovery or disposal. Avoid sweeping dry powder with brooms to prevent airborne dust clouds.

SECTION 7: Handling & Storage

Handling

- Avoid direct contact with eyes and skin. Avoid inhaling dust. Wear recommended personal protective equipment (PPE). Ensure handling zones are enclosed or heavily ventilated to minimize dust levels.

Storage

- Store under strictly dry, weather-proof conditions. Bulk storage must utilize purpose-designed dry silos.
- **Keep strictly away from:**
 - Acids (reaction generates significant heat).
 - Water/Moisture (causes pre-hydration and caking).
 - Aluminum and Brass (contact in damp conditions generates highly flammable **Hydrogen Gas**: $\text{Ca(OH)}_2 + 2\text{Al} + 6\text{H}_2\text{O} \rightarrow \text{Ca(Al(OH)}_4)_2 + 3\text{H}_2 \uparrow$).

SECTION 8: Exposure Controls & Personal Protection

- **Occupational Exposure Standard (OES):** 5 mg/m³ of dust (8-hour Time Weighted Average TWA).

Personal Protective Equipment (PPE)

REQUIRED PPE GEAR	
	Mask: EN 149 FFP2 Respirator
	Eyes: Tight Goggles
	Hands: Nitrile Gloves
	Feet: Caustic-Resistant

- **Skin Protection:** Wear close-fitting protective overalls covering all exposed skin, long sleeves, and full-length trousers. Shower daily after shifts.

SECTION 9: Physical & Chemical Properties

- **Appearance:** Fine, off-white (beige-white) dry powder.
- **Odor:** Mild, slight earthy odor.
- **pH value:** 12.4 (at 25°C in saturated aqueous solution).
- **Melting Point:** Decomposes at 580°C to form Calcium Oxide (CaO) and Water (H₂O).
- **Specific Gravity:** 2.24 g/cm³ at 20°C.
- **Bulk Density:** 200 – 800 kg/m³ at 20°C.
- **Solubility:** Highly soluble in ammonium salts, acids, and glycerine. Soluble in water (1850 mg/l at 0°C; 1650 mg/l at 20°C). Completely insoluble in alcohol.

SECTION 10: Toxicological & Ecological Information

- **Toxicological Profile:** Causes acute skin irritation, eye damage, and upper respiratory tract discomfort. Prolonged exposure leads to chronic dermatitis and respiratory irritation.
- **Ecotoxicity:** Saturated solution raises water pH above 12. Although lime is technically non-toxic to aquatic life (Fish LC50 = 160 mg/l for 96 hours), localized pH spikes above 9 are hazardous to fish and aquatic plants.