Material Safety Data Sheet
Calcium oxide

Section 1 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white, light yellow, light gray powder.

**Danger!** Reacts with water releasing heat and forming alkaline Ca(OH)2 solution. Causes eye and skin irritation and possible burns. May cause severe respiratory and digestive tract irritation with possible burns.

**Target Organs:** Respiratory system, eyes, skin, mucous membranes.

**Potential Health Effects**
- **Eye:** Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Causes eye irritation and possible burns.
- **Skin:** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause deep, penetrating ulcers of the skin.
- **Ingestion:** May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause circulatory system failure. May cause perforation of the digestive tract. May cause excess salivation, painful swallowing, rapid pulse and thermal burns.
- **Inhalation:** May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
- **Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause nasal septum ulceration and perforation.

Section 2 - First Aid Measures

- **Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
- **Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
- **Ingestion:** If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
- **Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- **Notes to Physician:** Treat symptomatically and supportively.

Section 3 - Personal Protection
**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

---

**Section 4 - Physical and Chemical Properties**

**Physical State:** Powder

**Appearance:** white, light yellow, light gray

**Odor:** Odorless.

**pH:** Not available.

**Boiling Point:** 2850 deg C @ 760 mm Hg

**Freezing/Melting Point:** 2570 deg C

**Decomposition Temperature:** Not available.

**Solubility:** reacts with water with evolution of heat

---

**Section 5 - Stability and Reactivity**

**Chemical Stability:** Absorbs carbon dioxide from the air. Hygroscopic: absorbs moisture or water from the air. Reacts with water releasing heat and forming alkaline Ca(OH)2 solution.

**Conditions to Avoid:** Exposure to moist air or water.

**Incompatibilities with Other Materials:** React with water to form calcium hydroxide and heat; reacts with carbon dioxide to form calcium carbonate. Incompatible with ethanol, boric oxide + calcium chloride, and interhalogens such as boron trifluoride, chlorine trifluoride, fluorine, hydrofluoric acid, phosphorus pentoxide, perchlorates, nitrates, and permanganates, acids.

**Hazardous Decomposition Products:** Calcium hydroxide.

**Hazardous Polymerization:** Will not occur.