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MATERIAL SAFETY DATA SHEET

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No. 22

CALCIUM OXIDE
REVISION B

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SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: CALCIUM OXIDE
OTHER DESIGNATIONS: Lime, Quicklime, Burnt Unslaked Lime, High Calcium Lime, Calx, Calcia, CaO, GE Material D4C26, ASTM C5, C45, C46, C53, C258, C415, C433 and C828, CAS# 001 305 788
MANUFACTURER: Available from many suppliers, including Pfizer, Inc., MPM Division, 260 Columbia St., Adams, MA 01220

SECTION II. INGREDIENTS AND HAZARDS

	x	HAZARD DATA
Calcium oxide**	>90	8-hr TWA 5 mg/m ³ *
Magnesium oxide	0-2.5	8-hr TWA 15 mg/m ³ (fume)

*Current OSHA permissible exposure. ACGIH (1978) placed material on Intended Changes List with 8-hr TWA of 2 mg/m³.

**Purity depends on the purity of the CaCO₃ from which it was prepared and on the exposure to air during storage and handling. Can contain MgO, SiO₂, other oxides, CaCO₃ and Ca(OH)₂.

SECTION III. PHYSICAL DATA

Boiling point at 1 atm ----	2850°C	Specific gravity -----	3.2-3.4
Water solubility, g/100g (reacts):		Melting point -----	2570°C
0°C -----	0.14	pH at 25 C (approx): 0.2 g/l water ----	11.7
50°C -----	0.097	1.2 g/l water (sat.)	12.5
100°C -----	0.054		

Appearance & Odor: White solid*; odorless.
*Material commercially available in lump, pebble, pelletized and powdered forms.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
Not flammable	N/A		N/A	N/A

In small amounts, its presence in a fire does not hinder the use of any standard extinguishing medium. Wear self-contained breathing apparatus approved by NIOSH. Protect eyes from dust.
In large amounts in contact with water, steam or acidic material it can evolve much heat.

SECTION V. REACTIVITY DATA

It is incompatible with boric oxide, acids, fluorine, water, steam and many organic materials.
This strongly alkaline material is stable in sealed containers at normal temperatures. Hazardous polymerization will not occur. Calcium oxide will swell and generate heat when moistened and could burst containers. Fluorine will attack calcium oxide, evolving much heat and some light.
When exposed to air, it will react with the moisture and carbon dioxide in the air.

SECTION VI. HEALTH HAZARD INFORMATION	TLV 5 mg/m ³
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Calcium oxide is a strongly alkaline material; contact with skin and eyes will cause irritation and possible severe corrosion damage. Inhalation of dust may cause coughing, sneezing, inflammation of the respiratory passages.

FIRST AID:

Eye contact: Wash eyes immediately with running water for 15 minutes, including under eyelids. Get prompt medical attention!

Skin contact: Wash exposure area with large amounts of water. Remove contaminated clothing.

Inhalation: Remove from exposure to dust and get prompt medical help.

Ingestion: Immediately dilute chemical by drinking large amounts of water or milk. Then neutralize by drinking dilute vinegar or fruit juice.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Those involved in clean up must use personal protection against skin contact with lime and inhalation of dust or mist (See Sect. VIII). Keep spilled material away from organic materials and water. Carefully pick up the solid with a minimum of dusting and collect in metal containers with covers for disposal. The trace amounts of residue in the spill area can be flushed to the drain, using plenty of water.

DISPOSAL: Carefully add to water, dilute, and flush to the sewer. (Large amounts may require neutralization by acid.) Follow Federal, State and local regulation. Alternately, waste lime can be used for neutralizing plant acid wastes.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general ventilation and local exhaust ventilation to meet TLV requirements for lime dust. When dusty conditions exist, an approved dust filter respirator may also be needed. In the absence of dust or mist, mechanical exhaust is sufficient. Wear clean, dry rubber gloves, clean, body-covering protective clothing, and approved eye protection selected for the working conditions. An eyewash station and safety shower must be readily available near the work area.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store material in sealed containers in a dry place, away from acids and organic materials. Protect containers against physical damage. Remember that this material will generate heat by reaction with water; care should be taken to see that this heat is dissipated safely when lime is deliberately mixed with water.

Avoid contact with air to maintain full reactivity of lime. If exposed to air it will react with water and with carbon dioxide.

SPECIAL REFERENCE: National Lime Association, "Chemical Lime Facts", Bulletin 214, 3rd Ed., Washington, DC, 1973.

DATA SOURCE(S) CODE: 1,2,4,6,8,12

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