



SYNERGY CHEMICAL INDUSTRIES

Material Safety Data Sheet

SECTION 1 – PRODUCT & MANUFACTURER INFORMATION

Product Identity: High Calcium, Hydrated Lime, Slaked Lime, Lime Hydrated
 Chemical Formula - $\text{Ca}(\text{OH})_2$
 Chemical Name - Calcium Hydroxide $\text{Ca}(\text{OH})_2$
 Chemical Family - Alkaline Earth Hydroxide

Manufacturer's Details:

Name: Synergy Chemical Industries

Factory Address: Kh.No.1110, Vil. Bhawanda, Teh. Khinvsar, Dist Nagaur, Pincode 341025

Emergency Contact No. 9833831479

Product use/s: Acid neutralizer, water treatment, PH correction, detergent additive, soil stabilization agent, asphalt, paints and concrete products , paper coating disinfectant etc.

| | | |
|----------|---|--|
| | <p>WARNING</p> <p>Corrosive – Causes severe burns. Toxic Harmful by inhalation. (Contains Crystalline silica)</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product. Read MSDS for details.</p> | |
|----------|---|--|

SECTION 2 – COMPOSITION & INFORMATION ON CONTENTS

| Grades of Hydrated Lime | | Grade SP | Grade AA | Grade A | Grade B | Grade C | Grade D |
|--|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| Specifications | Min / Max | In % | In % | In % | In % | In % | In % |
| Available Lime as $\text{Ca}(\text{OH})_2$ % | Min | 94-96 | 92 | 90 | 85 | 80 | 70 |
| Active CaO % | Min | 68-69 | 70 | 68 | 64 | 61 | 53 |
| % Acid Insoluble | Max | 0.5 | 1 | 1 | 2 | 4 | 8 |
| % Moisture | Max | 0.5 | 0.5 | 1 | 2 | 3 | 3 |
| % Iron & Alumina (As Fe) | Max | Nil | In Traces | In Traces | In Traces | In Traces | In Traces |
| % Magnesia as MgO | Max | 2 | 2 | 2 | 3 | 4 | 4 |
| Mesh Size 100% Passing | Min | 300 | 300 | 250 | 150 | 100 | 100 |

To convert the available lime content from CaO to $\text{Ca}(\text{OH})_2$ multiply the result by 1.32

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview: Hydrated Lime is a white to off-white powder and odorless. It is corrosive to eyes and skin. Rules of entry in human body are as below:

- I) Skin Contact
- II) Ingestion
- III) Inhalation
- IV) Eye contact

Care should be taken to limit the exposure and prevent direct contact with eyes. Due to mishandling dust created may cause severe respiratory irritation. Further presence of quartz in the material in traces may be carcinogen. However as stated above sand in this product is minimal.

SECTION 4 – FIRST AID MEASURES

- 1) **Skin Contact:** Remove dry lime from body and wash large amount of water. May apply edible oil to smooth skin. If improvement not seen may call for medical help.
- 2) **Ingestion:** If patient is conscious small portion of glucose with water can be given. Do not induce vomiting. For unconscious person get immediate medical help seek medical attention.
- 3) **Inhalation:** Immediately remove the person to open area in fresh air. If person difficulty in breathing may seek medical attention.
- 4) **Eye Contact:** In case of eye contact with the material wash or flush eyes with fresh water, rinse eyes with warm water for 30 minutes and advised to seek medical attention.

SECTION 5 – FIRE FIGHTING MEASURES

(A)

- 1. **Flammability:** Hydrated Lime/Calcium Hydroxide is not considered as inflammable material
- 2. **Flash Point:** Not applicable to this material
- 3. **Auto ignition Limit:** Not Applicable
- 4. **Upper & Lower explosive limits:** Not Applicable
- 5. **Explosion data:** Not Applicable
- 6. **Hazards Combustion products:** None
- 7. **Conditions to Avoid:** None

(B) Methods:

Extinguishing medium In case of fire use water spray, dry chemical extinguisher, carbon dioxide or foam.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

1. Avoid use of water on bulk spills. Person handling should have proper protective gears minimize generation of dust.
2. Avoid inhalation of Hydrated Lime and any contact with naked skin or eyes.
3. Do not wash huge quantity of Hydrated Lime in sewers or water ways.
4. Residual amount can be flushed with large quantity of water.
5. Store spilled material in plastic or metal containers, avoid use of Aluminum.

SECTION 7 – HANDLING & STORAGE

Handling Procedures:

This material is mildly corrosive and reactive with water. Handle bags in a manner that will ensure minimal generation of dusts. Do not get on skin or do not breathe dust, which may generate accidentally. Follow safe work procedures and wear the appropriate personal protective equipment specified in Section 8. The workers must be instructed and trained in the safe work procedures.

Storage:

Keep dry, This product reacts with water to harden. Store in a sheltered area away from moisture. Do not store near foodstuffs. Store away from incompatible materials such as strong acids.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Mechanical ventilation should be used to control dust levels.

Personal Protective Equipment

General: To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) or European Standard EN166 be conducted before using this product. 4.

Eye/ Face: Protection Use safety eyewear for protection against airborne particulate.

Skin Protection: Use impermeable clothing to prevent any contact with this product, such as gloves, apron, boots, or whole body suit. Recommended to prevent skin irritation in hypersensitive individuals. Natural rubber, neoprene, nitrile, or PVC gloves.

Respiratory Protection: In case of insufficient ventilation or extremely dusty environments, wear suitable respiratory equipment.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|--------------------------------------|---|
| Appearance : White or off-white powder | Odor : Odorless | Physical State : Solid |
| Boiling Point (°C/°F): 2850 / 5162 | Melting Point (°C/°F): 580 / 1076 | Specific Gravity (Apparent) g/cc: 0.4 - 0.55 (True) g/cc: 2.2 - 2.4 |
| Vapor Pressure (mm Hg): N.A. | Vapor Density: N.A. | Evaporation Rate: N.A. |
| Solubility in Water: Slightly soluble in water | pH (25°C/77°F): 12.4 approx | |

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable but reacts slowly with carbon dioxide to form and calcium /magnesium carbonate. Keep dry until use. Hydrated lime may react with water, resulting in a slight release of heat, depending on the amount of lime (Calcium Oxide) present avoid contact with incompatible material.

Incompatibility: Wet Hydrated Lime and cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Hydrated Lime and cement dissolves in hydrofluoric acid, producing corrosive silicon tetra fluoride gas. Hydrated lime and cement react with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron tri fluoride, chlorine tri fluoride, manganese trifluoride and oxygen di-fluoride.

Hazardous polymerization: None.

Hazardous decomposition: Hydrated Lime will decompose at 540°C to produce calcium oxide (quicklime) magnesium oxide, and water.

SECTION 11 – TOXICOLOGICAL INFORMATION

Hydrated Lime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica, which has been classified by IARC as carcinogenic to humans when inhaled in the form of quartz or cristobalite.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental fate: Calcium Hydroxide or Slaked Lime is not expected to significantly bio accumulate.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under statutory laws.

SECTION 14 – TRANSPORTATION INFORMATION.

Indian Transportation of Dangerous Goods Regulations: Not regulated

International Air Transport Association (IATA): Not regulated

International Maritime Organization (IMO): Not regulated

SECTION 15 – REGULATORY INFORMATION

| EPA Regulations | |
|---|------------|
| RCRA Hazardous Waste Number (40 CFR 261.33) | Not Listed |
| RCRA Hazardous Waste Classification (40 CFR 261) | Not Listed |
| CERCLA Hazardous Substance (40 CFR 261) | Not Listed |
| CERLA Reportable Quantity (RQ) | Not Listed |
| SARA 311/312 codes | Not Listed |
| SARA Toxic Chemical (40 CFR 372.65) | Not Listed |
| SARA EHS (Extremely Hazardous Substance) (40 CFR 355) | Not Listed |
| Threshold Planning Quantity (TPQ) | Not Listed |
| All components are listed on the USEPA TSCA Inventory List | |
| OSHA/MSHA Regulations | |
| Air Contaminant (29 CFR 1910.1000, Table Z-1) | Not Listed |
| MSHA | Not Listed |
| OSHA Specifically Regulated Substance (29 CFR 1910) | Not Listed |
| State Regulations: consult state and local authorities for guidance | |

SECTION 16 – OTHER INFORMATION

Prepared By: Synergy Chemical Industries, Jodhpur, India

Synergy Chemical Industries 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 consult their own technical and legal advisors and/ or exercise their own judgment in determining its appropriateness for a particular purpose. Synergy Chemical industries makes no representations or warranties, either express or implied, including without limitation and warranties of merchantability or fitness for a particular purpose with respect to the information set forth herein or the product(s) to which the information refers. Accordingly, Synergy Chemical Industries will not be responsible or liable for any claims, losses or damages resulting from the use of or reliance upon or failure to use this information.