**Material Safety Datasheet**

**Company Details**

**Name**
PROTEA CHEMICALS

**Address**
1 Berrange Road
Wadeville
Germiston
1422

**Emergency Tel**
0800 172 743

**Tel**
011 821 3300

**Fax**
011 827 4612

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**1. Product and Company Identification**

**Trade / Commercial Name**
Lime (Hydrated)

**Chemical Name**
Calcium Hydroxide

**Formula**
Ca(OH)2

**Chemical Family**
Alkaline Earth Hydroxide

**Synonyms**
Lime; slaked lime; hydrated lime

**Un No**
1759

**Hazchem Code**
N/A

**ERG No**
154

**EAC**
60

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**2. Hazards Identification**

PRODUCT IS CORROSIVE!
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Containers may explode when heated.
Contact with molten substance may cause severe burns to skin and eyes.
Avoid any prolonged skin contact.
Effects of contact or inhalation may be delayed.
Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

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**3. Composition**

**Hazardous Components**
Calcium Hydroxide >90%
Cas No. 1305-62-0
OSHA PEL: 5mg/m3
ACGH TLV: 5mg/m3

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**4. First Aid Measures**

**First Aid Skin**
Remove & isolate contaminated clothing and shoes.
For minor skin contact, avoid spreading material on unaffected skin.
Flush body with plenty of water for at least 20 minutes. Keep warm and quiet.

**First Aid Eyes**
Flush eyes with water for 20 minutes.
Hold eyelids open while washing.

**First Aid Ingested**
Do not induce vomiting.
Seek medical assistance.

**First Aid Inhalation**
Move victim to fresh air. If not breathing give artificial respiration.
Do not use mouth-to-mouth, if victim has inhaled or ingested the substance; induce artificial respiration with the aid of a pocket mask with a one-way valve. If breathing of victim is difficult administer oxygen. Effects of exposure may be delayed.

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**5. Fire Fighting Measures**

Hydrated Lime is not combustible or flammable.
Hydrated Lime is not an explosion hazard.
6. Accidental Release Measures

Spill Procedures:
Protect against identified hazards through use of prescribed personal protection equipment, proper work and hygiene practices. Limit foot and vehicular traffic to minimize mechanical agitation and dispersion. Employ a vacuum, equipped with HEPA (High Efficiency Particulate Air) filter, for clean-up of the spill material. If no vacuum is available, use a broom and shovel to collect excess powder in the area. Residual material should then be cleared, utilizing the process of wet sweeping, to avoid dust generation.

Containment Techniques:
This is a solid material and will not travel far from the spill location unless mechanically agitated. Therefore, no specific containment techniques are recommended outside of restricting access to the spill location. During spill cleanup, residual wash waters should be contained and collected for proper disposal.

Spill Response Equipment:
The following equipment is recommended for spill response:
- vacuum, equipped with a HEPA filter
- broom, wet mop
- dustpan, shovel, or scoop
- bags, drums, or sacks for collection

Note: Non-sparking equipment may be selected, based on location specific requirements and individual work site evaluations.

Personal Protective Equipment

Employees should utilize the following protective equipment when performing spill response activities:
- gloves (rubber or leather)
- cotton or Tyvek coveralls
- chemical/safety impact goggles
- respiratory equipment recommended in Section 8

7. Handling And Storage

Handling:
Keep in tightly closed containers.
Protect from physical damage.
Avoid direct contact with material.

Storage:
Store in a cool, dry and well ventilated location.
Do not store near incompatible materials.
Keep away from moisture.
Do not store or ship in aluminum containers.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

Respiratory Protection:
If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye/Face Protection:
Use chemical safety goggles and/or full face shield where dusting or splashing of
Work Hygiene Practices:
To control potential exposures, avoid creating dust. Always wear appropriate protective equipment when handling. To avoid skin contact, gloves (leather or rubber) should be worn when handling containers of this substance. Do not eat, drink, smoke or apply cosmetics while using/handling. Always wash hands and face after handling.
Avoid direct skin contact when possible.
Do not eat, drink, smoke, or perform other hand-to-mouth activities in product use or handling area.
Wash thoroughly after handling this product.

Controls
The control measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Supply sufficient replacement air to make up for air removed. Have a safety shower/eye wash fountain readily available in the immediate work area.

Personal Protection
If engineering controls and work practices are not effective in controlling this material, then wear suitable personal protection equipment, including chemical safety goggles & face shield, boots, imperious gloves, coveralls, & respiratory protection. Have appropriate equipment available for use in emergencies.

9. Physical & Chemical Properties

Appearance : White Powder
Physical State: Solid
Color: White
Odor : Odorless
Molecular Weight : 74.09
Ph Value : 12.4 (saturated solution)
Boiling Point (at 760 mm Hg) : Not applicable.
Melting Point : 580° C. (1076° F.) (decomposes)
Flash Point : Not applicable.
Flammability : Not applicable.
Autoignition Temperature : Not applicable.
Explosive Properties : Not applicable.
Explosion Limits : Not applicable.
Vapor Pressure (mm Hg) : Not applicable.
Vapor Density (Air=1) : Not applicable.
Solubility : 0.185g/100ml at 20° C.
Specific Gravity (Water=1) : 2.5
Viscosity : Not applicable.

10. Stability And Reactivity

Conditions to Avoid
Reactivity
Chemically stable, but reacts slowly with carbon dioxide to form calcium carbonate.

Incompatible Materials
Hydrated Lime should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat.

Other
Hydrated lime will decompose at 540 C to form calcium Oxide and water

11. Toxicological Information

Inhalation : No quantitative information found.
Ingestion: Rat, LD50: 7340 mg/kg
Skin: No quantitative information found.
Eye: Rabbit, standard Draize: 10 mg, severe; investigated as a mutagen

12. Ecological Information

Environmental Fate: No information found.
Distribution and Persistence in the Environment: No information found.
Bioaccumulation in Aquatic Organisms: No information found.
Permissible Concentration in Water: No information found.

13. Disposal Considerations

<table>
<thead>
<tr>
<th>Disposal Method</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.</td>
<td></td>
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</tbody>
</table>

Disposal Method Packaging
Disposal in accordance with local legal provisions.

14. Transport Information

<table>
<thead>
<tr>
<th>UN No</th>
<th>1759</th>
<th>Hazchem Code</th>
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<td>ERG No</td>
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<tr>
<td>ARD/RID Class</td>
<td>N/A</td>
<td>ARD/RID Hazard ID No</td>
<td>n/a</td>
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<tr>
<td>IMDG-Shipping Name</td>
<td>Lime Hydrated</td>
<td>IMDG-Packaging Group</td>
<td>III</td>
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</table>

Marine Pollutant: No
Class: Corrosive Class 8, Packaging Group III
Subsidiary Risks: None

15. Regulatory Information

<table>
<thead>
<tr>
<th>EEC Hazard Classification</th>
<th>8</th>
</tr>
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<tbody>
<tr>
<td>Risk Phases</td>
<td>R21 Harmful in contact with skin. R22 Harmful if swallowed. R34 Causes burns. R43 May cause sensitization by skin contact. R52 Harmful to aquatic organisms.</td>
</tr>
<tr>
<td>Safety Phases</td>
<td>S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36 Wear suitable protective clothing. S37 Wear suitable gloves. S39 Wear eye / face protection. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.) S61 Avoid release to the environment. Refer to special instructions / safety data sheets. R53 May cause long-term adverse effects in the aquatic environment.</td>
</tr>
</tbody>
</table>

National Legislation: N/A

16. Other Information

Reason for Alteration: General update 2013

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properness of the product.
All information is given in good faith but without guarantee in respect of accuracy & no responsibility is accepted for errors or omissions or the consequences thereof.