Section 1: Identification

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Identification of the Substance/Mixture and of the Company/Undertaking

Product Name: LIME PRIME

Recommended Use and Uses Advised Against


Uses advised against: New or uncoated aluminum or copper water pipes.

Details of the Supplier of the Safety Data Sheet (Producer/Seller)

Company: Earthpaint Incorporated
Address: PO BOX 19129, Asheville, NC 28815
Tel.: 828-258-2580
Website: www.earthpaint.net
Email: Support@Earthpaint.net
Importer: Not applicable.

Section 2: Hazard(s) Identification

2. Hazards Identification

2.1 Hazards Identification

Hazard Classification:
- Skin irritation, category 2
- Causes serious eye damage, category 1
- Target organ systemic toxicity (single exposure), category 3
- Harmful if swallowed, category 3

Signal word: Danger

Hazard statement:
- H315. Cat. 2: Causes skin irritation.
- H318. Cat. 1: Causes serious eye damage.
- H335. Cat. 3: May cause respiratory irritation.
- H302. Cat. 3: Harmful if swallowed
Precautionary Statement:
P102: Keep out of reach of children.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352: IF ON SKIN: Wash with soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501: Dispose of contents/container according to regional, national and international regulations.

Other Hazards: No information.

GHS Hazard Pictograms:
According to Regulation (EC) No 1272/2008 [CLP/GHS]

Section 3: Composition/Information on Ingredients

3. Composition/Information on Ingredients

3.1 Composition / Information on Ingredients

Substances / Mixture: Mixture

<table>
<thead>
<tr>
<th>Name – Common Name</th>
<th>CAS#</th>
<th>%</th>
<th>Formula</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide (Lime)</td>
<td>1305-62-0</td>
<td>40-80</td>
<td>Ca(OH)2</td>
<td>Exact % Trade Secret.</td>
</tr>
<tr>
<td>Titanium Dioxide (Inorganic, White Earth Oxide Pigment chemically and physically bound to minerals &amp; binders within product. Respirable dust unlikely to occur.)</td>
<td>13463-67-7</td>
<td>0-1</td>
<td>TiO2</td>
<td>0% refers to untinted product.</td>
</tr>
</tbody>
</table>

There are no additional ingredients, additives, stabilizers present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.
**Section 4: First-Aid Measures**

**4. First Aid Measures**

**4.1 Description of the First Aid Measures**

- **General information:** Seek medical attention if symptoms persist.
- **Upon Inhalation:** Get fresh air immediately.
- **Upon contact with skin:** Treat as an Alkaline. Remove contaminated clothing. Wash off skin with soap and water. Rinse with diluted vinegar or lemon juice to help balance pH. Rinse well. If irritation continues, contact physician. (Temporary skin contact does not ordinarily result in irritation. Avoid skin contact. If it gets on skin rinse it off. Avoid open cuts.)
- **Upon contact with eyes:** Flush open eyes with water for 10 minutes.
- **Upon ingestion:** Drink plenty of water, Acidic fruit juices or diluted vinegar help to balance pH. Do not induce vomiting.

**Most important Symptoms and Effects, both Acute and Delayed**

- **Symptoms:** Treat product as an alkaline. Eye contact: can cause serious irritation or eye damage with prolonged exposure. Skin contact: irritation can occur, especially on open cuts. (Male Worker skin exposed to heavy wet puddle on arm <15 min - Irritant. <30 min – Irritant. <60 min – n/a, product dried, pH neutralized.) Can result in severe skin burns if not washed off. This will depend on the duration of exposure, wetness (sweat included) sensitivity of the individual's skin. Inhalation: may irritate respiratory tract or mucus membrane.
- **Effects:** Same as symptoms. Chronic, long term eye contact could lead to blindness. Causes irreversible eye damage with prolonged contact. (Rabbits 24 hr exposure - severe irritation.)

**Recommendations for Immediate Medical Attention and Special Treatment Needed**

- **Treatment:** Treat each symptom following suggestions in 4.1
Section 5: Fire Fighting Measures

5. Fire Fighting Measures

5.1 Extinguishing Equipment

Suitable extinguishing equipment:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Product is not flammable or combustible. 
Extinguishing powders, CO2, firefighting foam.

Unsuitable extinguishing equipment:

Do not use water jet as an extinguisher, as this will spread the fire. During fire, gases hazardous to health may be formed.

Specific Hazards arising from product during fire

Specific hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Firefighter Recommendations

Protective equipment: Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from fire area if you can do so without risk. Protect against inhalation with protective respiratory device. **Wear protective clothing.**

Precautions: Use standard firefighting procedures.

Section 6: Accidental Release Measures

6. Accidental Release Measures

6.1 Accidental Release Measures

Personal Precautions, protective equipment, and emergency procedures:

Ventilate area properly.

Wear protective clothing and eye protection.

Rubber gloves, long sleeves, and eye protection recommended to avoid contact with skin, eyes, and clothing.

Contact physician upon ingestion, contact with eyes, and/or extended contact with skin.

Environmental Precautions:

Avoid spilling large quantities into drains and surface waters.

Contact local authorities if spillage occurs. Treat as an alkaline.

Methods and materials used for containment:
Section 7: Handling and Storage

7. Handling and Storage

7.1 Precautions for Safe Handling & Hygiene

Safe handling instructions: Ensure appropriate protective clothing is worn (long sleeves, gloves, eye protection.) Have an eye rinsing station or sink nearby.

Hygienic practices: Avoid contact with skin and eyes. Avoid eating, drinking, and smoking while using product.

Safe storage conditions including any compatibilities

Storage conditions: Keep materials protected from damage in a dry area sealed in the provided containers. Keep sealed tight and upright when not in use. Keep away from children.

Specific storage requirements: Store in original container.

Proper container material: Plastic.

Improper container material: Aluminum.

Section 8: Exposure Controls/Personal Protection

8. Exposure Controls/Personal Protection

8.1 Parameters to be Controlled

Calcium Hydroxide, USA /OSHA:

ACGIH TLV (United States, 3/2017). TWA: 5 mg/m³ 8 hours.

NIOSH REL (United States, 10/2016). TWA: 5 mg/m³ 10 hours.

OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours.

Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust.
Permissible Exposure Limit (PEL):
15 mg/m³ TWA

Predicted No-Effect Concentration (PNEC):
- Freshwater: 0.49 mg/l
- Marine water: 0.32 mg/l
- Sewage treatment plant (STP): 3 mg/l
- Soil: 1.080 mg/kg

Calcium Hydroxide, Canada:
- CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 5 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 6/2017). TWA: 5 mg/m³ 8 hours. CA Ontario Provincial (Canada, 7/2015). TWA: 5 mg/m³ 8 hours. CA Quebec Provincial (Canada, 1/2014). TWAEV: 5 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 10 mg/m³ 15 minutes. TWA: 5 mg/m³ 8 hours.

Calcium Hydroxide, Mexico:
- NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 5 mg/m³ 8 hours.

Titanium Dioxide, USA /OSHA:
- ACGIH TLV (United States, 3/2018). TWA: 10 mg/m³ 8 hours.
- OSHA PEL (United States, 5/2018). TWA: 15 mg/m³ 8 hours.
- Form: Total dust

Titanium Dioxide, CA British Columbia Provincial (Canada, 7/2018):
- TWA: 3 mg/m³ 8 hours. Form: Respirable dust TWA: 10 mg/m³ 8 hours. Form: Total dust CA Quebec Provincial (Canada, 1/2014). TWAEV: 10 mg/m³ 8 hours. Form: Total dust CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours. CA Ontario Provincial (Canada, 1/2018). TWA: 10 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. TWA: 10 mg/m³ 8 hours.

Exposure controls

Engineering controls: Use Fresh Air to Cross-Ventilate area properly or use appropriate mechanical exhaust system. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal controls: Wear Organic Vapor NIOSH Approved Respiratory protection if Sensitive to odor, when spraying or if ventilation is poor. Wear protective chemical resistant Rubber Gloves (breakthrough time dependent on glove manufacture, check periodically to insure protection). Wear protective glasses or goggles. Provide eye rinsing station or bottle. Provide vinegar or acidic fruit juice to neutralize alkalinity after washing off skin. Don’t eat or drink while using product. Wash hands before and after using.

Wear protective clothing: Cover arms and legs (fully cover when spraying.) Wear work boots appropriate for each project.

Environmental controls: Cover areas not to be coated.
Section 9: Physical and Chemical Properties

9. Physical and Chemical Properties

9.1 Physical and Chemical properties

Appearance: Pasty, white liquid.
Explosive limits: Non-combustible.
Odor: Threshold: Practically Odorless. No known threshold. Test in advance if sensitive to odor. Product generally reduces odors of surfaces it is applied to. [Chemically sensitive people or those undergoing medical treatments may be sensitive to odors. Cross ventilate buildings with fresh air 8-24 hours before reintroducing sensitive individuals.]
Vapor pressure: 0 mmHg
Vapor Density: Not applicable.
pH: 12-12.6 (@70F). Dries pH neutral.
Relative density: 1.33
Melting point/freezing point: 550°C
Water Solubility: 1.7g/l at 20°C Initial boiling point and boiling range: 100°C
Flash point: Not applicable.
Evaporation rate: Not applicable.
Flammability (solid, gas): Non-flammable.
Partition coefficient (n-octanol/water): Not applicable.
Auto-ignition temperature: None at temps below 400°C
Decomposition temperature: 580°C. Heated above this temperature will cause calcium hydroxide to separate into calcium oxide and water.
Viscosity: >100 + 3KU.

Section 10: Stability and Reactivity

10. Stability and Reactivity

10.1 Stability and Reactivity

Reactivity: Calcium hydroxide separates in aqueous media forming calcium cations and hydroxyl anions.
Chemical Stability: Stable under normal conditions and suggested use.
Hazardous Reactions: Exothermic reactions when combined with strong acids.
Conditions to Avoid: Avoid heating above 580°C to avoid decomposition of calcium hydroxide.
Section 11: Toxicological Information

11. Toxicological Information

11.1 Toxicological Information

Acute Toxicity: Not expected to be acutely toxic. Dried product is zero-voc and non-toxic. Wet product is alkaline and dries pH neutral. Exposure is common. Serious acute effects to this product have not been seen. Mild, temporary skin irritation can occur when left on worker skin and not washed off. (>15 min no effect typically seen. >1 hr skin irritation. >4 hrs skin irritation.) Small amount of product dries to a neutral pH on skin within 15-30 min. If wet product were exposed to worker skin for prolonged periods (>4 hours) skin burns would be expected. Exposed Open cuts, abrasions can be severely irritated. Splashes in worker eyes moderately irritate and are rinsed promptly with no permanent effect.

Skin corrosion/irritation: Prolonged exposure causes severe skin burns. Mild to Moderate exposure Causes Skin Irritation. Mild, temporary skin irritation can occur when left on worker skin and not washed off. (>15 min no effect typically seen. >1 hr skin irritation. >4 hrs skin irritation.) Product dries to a neutral pH on skin within 15-30 min. If wet product were exposed to worker skin for prolonged periods severe skin burns would be expected. Exposed Open cuts, abrasions can be severely irritated. Rinse with a mild acidic like Vinegar, Lemon Juice to neutralize alkalinity on skin.

Respiratory or skin sensitization: Not a respiratory or skin sensitizer.

Numerical measures of toxicity:
- Titanium Dioxide - LD50 Oral: > 10000 mg/kg (Rat), Titanium Dioxide Skin - Mild irritant Human - 72 hours 300 Micrograms Intermittent.
- Calcium Hydroxide - Calcium Hydroxide LD50 Oral Rat 7340 mg/kg, Calcium Hydroxide Eyes - Severe irritant Rabbit - 10 milligrams.
Chart indicates if each agency lists any individual component of this mixture as carcinogenic.

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA / USA</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>2B</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

International Agency for Research on Cancer (IARC) (Lyon, France – HQ) Occupational exposure has classified titanium dioxide as possibly carcinogenic to humans (2B). Long term worker inhalation of breathable dust from TiO2 is the primary concern, their summary concludes:

"No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

- IARC MONOGRAPHS VOLUME 93, 1.3.2, (c) User industries

CMR properties: Not carcinogenic, germ cell mutagenic, or a reproductive toxicant.

Specific target organ toxicity (Single exposure):
May cause respiratory irritation.

Specific target organ toxicity (repeated exposure):
None known.

Aspiration hazard: Not and aspiration hazard.

Ingestion:
Causes digestive tract burns. [Patients with mild ingestions of Calcium Hydroxide may only develop irritation or grade I (superficial hyperemia and edema) burns of the oropharynx, esophagus or stomach; acute or chronic complications are unlikely.] Chronic ingestion not expected.

Contact with eyes:
Causes serious eye damage. Brief contact (splash), rinsed promptly causes irritation and typically resolves shortly after rinsing. Prolonged contact may cause irreversible eye damage with prolonged contact. [Rabbits 24 hr exposure to Calcium Hydroxide = severe irritation. Was severely irritating or corrosive when admin directly to central corneal surface of rabbit eyes. Irritation categories graded by draize scale recorded as time for clearing was negligible = 24 hr, moderate = 7 days, substantial = 21 days, severe = beyond 21 days.]

GRiffITH JF ET AL; TOXICOL APPL PHARMACOL 55 (3): 501-13 (1990)

Inhalation:
Irritation, cough, difficulty breathing.

Contact with skin:
Causes severe skin burns. Mild, temporary skin irritation can occur when left on worker skin and not washed off. (>15 min no effect typically seen. >1 hr skin irritation. >4 hrs skin irritation.)

Product dries to a neutral pH on skin within 15-30 min. If wet product were exposed to worker skin for prolonged periods severe skin burns would be expected.
Section 12: Ecological Information (non-mandatory)

12. Ecological Information

12.1 Ecological Information

Aquatic toxicity: Calcium Hydroxide - Algae blooms. In concentrations >1g/L, pH increases due to its high alkalinity (12 – 12.6). Blue-Green Algae, inhibition of nitrogen fixation.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater</th>
<th>Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>Not Listed</td>
<td>LC50 = 160 mg/L, 96h static (Gambusia affinis)</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Not Listed</td>
<td>Acute LC50=100000 µg/l Marine water Fish - Fundulus heteroclitus 96 hours</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Degradability: Not applicable to inorganic substances.

Bioaccumulation: Not expected. Agricultural uses of Calcium Hydroxide are extensive and well-studied. “Based on current use patterns no long term environmental impact is expected from calcium oxide or calcium hydroxide because once calcium enters the environment, it is expected to quickly reach background levels.” Docket Number: EPA-HQ-OPP-2010-0693 www.regulations.gov

Mobility in soil: Weak mobility in soil.

Other effects: Calcium Hydroxide useful to balance acidic waterways, algae blooms, and kill microbes in sewage systems but when concentration is >1gL aquatic organisms can be harmed due to rapid shift in pH.

CDC.gov guidance after flooding states, “Small areas of gross contamination (i.e., sewage with visible solid material) should be cleaned, and treatment with hydrated lime may be considered. Hydrated lime can be applied to increase pH to a level that kills microbes. The U.S. Environmental Protection Agency (EPA) requires that the pH of sewage sludge treated for land application be held at 12 for a minimum of 2 hours to kill microbes, and be held at a minimum of 11.5 for 22 additional hours to reduce vector attraction (13). In addition to maintaining an
Section 13: Disposal Considerations (non-mandatory)

13. Disposal Considerations

13.1 Disposal Considerations

Appropriate disposal: Dispose of containers and leftover product according to local, state and Federal waste disposal requirements. Tin cans biodegrade quickly in landfill. Rinse well with water and reuse, recycle or send to landfill. Heavy Duty plastic pails can be washed with water and reused, recycled or in the least ideal situation be sent to landfill.

Sewage disposal information: Do not empty into drains.

Special precautions: See Section 8 for Personal Protection. Separate waste (product and container) appropriately according to local, state, and Federal waste disposal requirements.

Section 14: Transport Information (non-mandatory)

14. Transport Information

14.1 Transport Information

US Department of Transportation: Not Regulated.

TDG: Not Regulated.

IATA: Not Regulated.

IMDG International Maritime Organization: Not Regulated.

Mexico: Not Regulated.

UN number: 3266

UN proper shipping name: Corrosive Liquid, Basic, Inorganic, N.O.S.
Section 15: Regulatory Information (non-mandatory)

15. Regulatory Information

15.1 Safety, Health, Environmental Regulations

Emergency Planning and Community Right to Know Act (EPCRA), Section 302
Extremely Hazardous Substances: Not listed
SARA 302/304: Emergency Planning and Release Notification: Not listed
SARA 311: Hazard Categories (40 CFR 370) Registered under OSHA HazCom
SARA 312: Emergency Planning and Release Notification: Not listed
EPCRA Section 313 Toxic Chemicals:
Toxic Release Inventory (TRI) Chemical List: Not listed
CAA 112(r) Regulated Chemicals for Accidental Release Prevention: Not listed
CERCLA: Hazardous Substances: Not listed
TSCA/DSL: Toxic Substance Control Act, Canada DSL and most International Chemical Inventories: Not listed
2016 CDR TSCA Inv: Not Listed
RCRA: Hazardous Waste Number and Classification: Not listed or classified
NJ RTK Substance #: 0322
Waste: Not subject to RCRA.
FDA: Subject to use conditions. Calcium hydroxide is generally recognized as safe (GRAS) by FDA 21 CFR, FDA Substance Registration System - FDA UNII PF5DZW74VN

EPA Safer Choice Chemical Ingredients List:  
(Calcium Hydroxide – Valid)

FIFRA Inert Ingredients in Pesticide Products:  
(Calcium Hydroxide – List 4B Valid)

40 CFR 180: Pesticide Tolerance Exemptions:  
(Calcium Hydroxide – Valid)

National Organics Program:  
Subject to use conditions. 205.605 (b), 205.601(i), 205.603 (b) Calcium Hydroxide (primary ingredient of this product) permitted for specific uses including plant disease control, and pest control in livestock applications.  
“Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food group(s)).”  
The following nonagricultural substances may be used as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food group(s))” only in accordance with any restrictions specified in this section."

184.1205. PROP 65: Not listed.

Section 16: Other Information

16. Other Information

16.1 Other Information

Date of last Revision: 10/1/2019  

Earthpaint Incorporated cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. Any guarantees are limited to Manufacturing defects. No other guarantee is expressed or implied. This document was carefully written to provide current information on the product. We cannot control environmental or use factors. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
NOTES: