Safety Data Sheet

# Envirolime

Revision date:
July 11, 2019

## 1. Identification

**Product Name:** Envirolime

**Synonyms:** Calciment, Calciment Pugged, Calciment-LKD-D, Calciment-LKD-H, Dolomitic Lime Kiln Dust, Hi Cal LKD Pugged, High Calcium Lime Kiln Dust, Lime Kiln Dust, LKD,

**Recommended Uses:** Manufacture of glass, brick, block and other building materials; pH adjustment; flocculation; soil conditioning; soil stabilization; solidification and dewatering.

**Manufacturer:** Carmeuse Lime & Stone


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## 2. Hazards Identification

**GHS classification**

**Physical Hazards**

None

**Health Hazards**

| | |
|---|---|
| Skin Irritation | Category 2 |
| Eye Damage | Category 1 |
| Carcinogenicity | Category 1A |
| Specific Target Organ Toxicity – Single Exposure | Category 3 |
| Specific Target Organ Toxicity – Repeated Exposure | Category 1 |

**GHS Label Elements:**

**Signal Word:** Danger

**Hazard Statements:**

Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation.
May cause cancer through inhalation
Causes damage to lungs through prolonged or repeated exposure by inhalation.
May react violently with water, releasing heat which can ignite combustible materials.

**Precautionary Statements:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep container tightly closed
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in well-ventilated area
Wear protective gloves, clothing and eye protection
Do not use water on material spills.

***Pictograms:***



## 3. Composition

| Chemical name | % by weight | CAS# |
|---|---|---|
| Calcium carbonate | 0-90 | 1317-65-3 |
| Calcium oxide | 0-50 | 1305-78-8 |
| Calcium hydroxide | 0-70 | 1305-62-0 |
| Calcium magnesium carbonate | 0-50 | 16389-88-1 |
| Calcium magnesium oxide | 0-50 | 37247-91-9 |
| Magnesium carbonate | 0-5 | 546-93-0 |
| Magnesium oxide | 0-5 | 1309-48-4 |
| Silica-crystalline quartz | < 10 | 14808-60-7 |

## 4. First Aid Measures

**Eyes:** Immediately flush eyes with generous amounts of water for at least 15 minutes. Pull back the eyelid to ensure that all lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.

**Skin:** Wash exposed area with large amounts of water. Seek medical attention immediately.

**Ingestion:** Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

**Inhalation:** Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration

**Most Important Symptoms:** Irritation of skin, eyes, gastrointestinal tract or respiratory tract.

**Immediate medical attention / special treatment?** See first aid information above. Note to Physicians: Provide general supportive measures and treat symptomatically.

## 5. Fire Fighting Measures

| | |
|---|---|
| **Suitable (and unsuitable) fire extinguishing media:** | Use dry chemical fire extinguisher. Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of this product. |
| **Specific hazards arising from the product** | Inhalation, skin or eye contact, can result in serious injury. This product is not combustible or flammable. However, this product may react violently with water, and can release heat sufficient to ignite combustible materials. This product is not considered to be an explosion hazard, although reaction with water or other incompatible materials may rupture containers. When this product is wet, it can be very slippery and can result in a slip hazard. Hazardous Combustion Products: None. |
| **Special protective equipment and precautions for fire fighters** | Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA) to prevent inhalation, skin or eye contact. |

## 6. Accidental Release Measures

**Personal precautions, protective equipment, emergency procedures:**

Avoid inhalation, eye and skin contact. Avoid generating airborne dust. Wear appropriate protective clothing as described in section 8.

**Methods and materials for containment and clean up:**

Utilize cleanup methods that minimize generating dust: vacuum. Avoid dry sweeping. Do not use water on large spills, as this product may react violently with water and release heat. Residue on surfaces may be removed with copious amount of water or vinegar.

## 7. Handling & Storage

| | |
|---|---|
| **Safe Handling:** | Avoid inhalation, skin and eye contact. Avoid generating airborne dust. An eye wash station should be readily available when this product is handled. |
| **Safe Storage:** | Keep in tightly closed containers. Protect containers from physical damage. Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below). Keep away from moisture. Long-term storage in aluminum containers is not recommended, as calcium oxide may corrode aluminum over long periods of time |

## 8. Exposure Controls/Personal Protection

**Occupational Exposure Limits**

| | OSHA PEL ($mg/m^3$) | ACGIH TLV ($mg/m^3$) | Ont. Reg. 833 TWAEV ($mg/m^3$) |
|---|---|---|---|
| Calcium carbonate | 15<br>5 (respirable) | 10 | 10 |
| Calcium oxide | 5 | 2 | 2 |
| Calcium hydroxide | 15 (total)<br>5 (respirable) | 5 | 5 |
| Calcium magnesium carbonate | - | - | - |
| Calcium magnesium oxide | - | - | - |
| Magnesium carbonate | 15 (total)<br>5 (respirable) | 10 | 10 |
| Magnesium oxide | 15 | 10 | 10 |
| Silica, *crystalline quartz, cristobalite and tridymite* | 0.05 (respirable) | 0.025 (respirable) | 0.1 |

**Engineering Controls:** Use with adequate general or local exhaust ventilation and to maintain exposure below occupational exposure limits.

**Individual Protection Measures (Personal Protective Equipment):**

**Specific Eye / Face Protection:** Safety glasses with side shields. In windy conditions, or if work activity generates elevated airborne dust levels, dust proof or chemical goggles are recommended. Contact lenses should not be worn.

**Specific Skin Protection:** When there is a risk of skin contact, wear appropriate clothing and gloves to prevent contact.

**Specific Respiratory Protection:** If exposure limits are exceeded, an approved particulate respirator, or supplied air respirator, appropriate for the airborne concentrations, should be used. Selection and use of the respiratory protective equipment must be in accordance with applicable regulations and good industrial hygiene practices.

**Other:** An emergency eye wash fountain and shower are recommended.

## 9. Physical & Chemical Properties

**Appearance:** White or grayish white material

**Odor:** Odorless

**Odor threshold:** Not Applicable

**pH at 25 degrees C:** 12.45

**Melting Point:** 2570 °F (1410 °C)

**Boiling Point and range:** 2849 °F (1565 °C)

| | |
|---|---|
| **Flash Point:** | Not Applicable |
| **Evaporation Rate:** | Not Applicable |
| **Flammability:** | Not Applicable |
| **Upper/lower flammability or explosive limits** | Not Applicable |
| **Vapor pressure/density:** | Non Volatile |
| **Relative density:** | 2.4 – 3.0 |
| **Solubility:** | 0.100- 0.125 g/100g - but reacts with water to produce $Ca(OH)_2$ and heat Soluble in acids, glycerin, and sugar solutions |
| **Partition coefficient: n-octanol/water** | Not applicable |
| **Auto-ignition temperature:** | Not Available |
| **Decomposition temperature:** | Not available |
| **Viscosity:** | Not Applicable |

## 10. Stability & Reactivity

| | |
|---|---|
| **Reactivity:** | Reacts violently with water to form calcium hydroxide, releasing heat. Reacts with acids to form calcium salts, releasing heat. Reacts with carbon dioxide in air to form calcium carbonate. See also Incompatibility below. |
| **Chemical stability:** | Stable under normal storage and handling conditions. |
| **Possibility of Hazardous Reactions:** | See “reactivity” above. |
| **Conditions to avoid:** | Vicinity of incompatible materials. |
| **Incompatibility:** | This product should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat:<br>• water (unless in a controlled process)<br>• acids<br>• reactive fluoridated compounds<br>• reactive brominated compounds<br>• reactive powdered metals<br>• reactive phosphorous compounds<br>• aluminum powder<br>• organic acid anhydrides<br>• nitro-organic compounds<br>• interhalogenated compounds |
| **Hazardous decomposition products:** | None |

## 11. Toxicological Information

**Likely routes of exposure & symptoms:**

**Eyes:** Contact can cause severe irritation or burning of eyes, including permanent damage.

**Skin:** Contact can cause severe irritation or burning of skin, especially in the presence of moisture.

**Ingestion:** This product can cause severe irritation or burning of gastrointestinal tract if swallowed.

**Inhalation:** This product can cause severe irritation of the respiratory system.

| | |
|---|---|
| **Chronic health effects:** | This product contains trace amounts of crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica can cause silicosis, as serious lung disease. |
| **Respiratory or skin sensitization:** | This material is not known to cause sensitization |
| **Germ cell mutagenicity:** | No data available. |
| **Carcinogenicity:** | This product is not listed as carcinogenic by OSHA, IARC, NTP, ACGIH, or the EU Directives. This product may contain trace amounts of crystalline silica quartz which is listed by IARC as “Carcinogenic to Humans” (Group 1) and “Known to be a Human Carcinogen" by NTP (National Toxicology Program). |
| **Reproductive toxicity:** | No Data Available. |
| **Numerical Measures of Toxicity** | Crystalline Silica: Oral (rat) $LD_{50}$ > 22,500 mg/kg<br>Calcium hydroxide: Oral (rad) $LD_{50}$: 7340 mg/kg<br>Calcium oxide: Oral (rat) $LD_{50}$: 3059 mg/kg |

## 12. Ecological Information

Because of the elevated pH of this product, it might be expected to produce some ecotoxicity upon exposure to certain aquatic organisms and aquatic systems in high concentrations
This material shows no bioaccumulation effect or food chain concentration toxicity.

## 13. Disposal Considerations

Dispose of contents in accordance with federal, state, provincial and local regulations.

## 14. Transport Information

| | |
|---|---|
| **UN Number** | UN1910 |
| **UN Proper shipping name** | Calcium Oxide |
| **Transport Hazard class(es)** | When transported by air only: Hazard Class 8-Corrosive |
| **Packing group** | When transported by air only: Packing Group III |
| **Environmental hazards** | This material is alkaline and if released into water or moist soil will cause an increase in pH |

**Transport in bulk (according to Annex II of MARPOL 73/79 and the IBC Code:**

**Special precautions which a user needs to be aware of**

When being transported by air, calcium oxide is classified in the Department of Transportation (DOT) regulations as a hazardous material. (49 CFR 172.101). For aircraft transport only, Calcium Oxide is classified as Hazard Class 8-Corrosive, UN1910, Packing Group III. For passenger aircraft, the maximum net quantity allowed per container is 25 kg. For cargo aircraft, the maximum net quantity allowed per container is 100 kg. For quantities greater than 25 kg up to and including 100 kg, the container shall be labeled with CARGO AIRCRAFT ONLY. Because express carriers (i.e., Federal Express, Airborne Express, and United Parcel Service) ship by air, calcium oxide presented to these carriers for shipment must be packaged, marked, and labeled in accordance with IATA requirements, and must be accompanied by the appropriate shipping documentation. Only personnel trained and certified under applicable DOT Hazardous Materials Regulations (contained in Title 49 of the Code of Federal Regulations) may prepare any calcium oxide product for air transport. Calcium oxide is not classified as a hazardous material by DOT when transported by means other than by air.

## 15. Regulatory Information

| | |
|---|---|
| **CERCLA Hazardous Substances** | Not listed |
| **SARA Toxic Chemical (40 CFR 372.65)** | Not listed |
| **SARA Section 302 Extremely Hazardous Substances (40 CFR 355)** | Not listed |
| **SARA 311/312** | Not listed |
| **SARA Section 313 Toxic Chemicals reporting requirements** | None |
| **Threshold planning quantity (TPQ)** | Not listed |
| **RCRA Hazardous Waste Classification (40 CFR 261)** | Not Classified |
| **EPA Toxic Substances Control Act (TSCA) Status** | The components of this product are each listed on the TSCA Inventory List in the “active” status. |
| **California Proposition 65** | Airborne crystalline silica particulates of respirable size are known to the State of California to cause cancer. |
| **NFPA ratings** | Health: 3 Fire: 0 Reactivity: 2 ~~W~~ |
| **HMIS Ratings** | Health: 3 Fire: 0 Reactivity: 2 Personal protection: E |
| **OSHA Specifically regulated substance (29 CFR 1910)** | Not listed |
| **OSHA Air contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A)** | Listed |
| **MSHA** | Not listed |
| **Canada DSL** | Listed |

**Canadian WHMIS Classification** D2A, Materials Causing other toxic effects.

E, Corrosive Material



**Canada CPR** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation of a Canada and this SDS contains all the required information.

## 16. Other Information

**List of GHS Hazard Statements:**
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation.
H350: May cause cancer through inhalation
H372: Causes damage to lungs through prolonged or repeated exposure by inhalation.

**List of GHS Precautionary Statements:**
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P233: Keep container tightly closed
P260: Do not breathe dust.
P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in well-ventilated area
P280: Wear protective gloves, clothing and eye protection

**Abbreviations**

| | | | |
|---|---|---|---|
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act | RCRA | Resource Conservation and Recovery Act |
| SARA | Superfund Amendments and Reauthorization Act | IARC | International Agency for Research on Cancer |
| NTP | National Toxicology Program | | |

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