L&M™ CRYSTEX™
by LATICRETE International

CLASSIFICATION: 03 62 13

PRODUCT DESCRIPTION: A high-strength, highly fluid, non-shrink, non-metallic, controlled expansion structural grout with superior dynamic load stability. Provides for long working time, easy placement and can be mixed to a wide range of consistencies.

Section 1: Summary

Basic Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format

- Nested Materials Method
- Basic Method

Threshold Disclosed Per

- Material
- Product

Threshold level

- 100 ppm
- 1,000 ppm
- Per GHS SDS
- Per OSHA MSDS
- Other

Residuals/Impurities

- Considered
- Partially Considered
- Not Considered

All Substances Above the Threshold Indicated Are:

Characterized

- Yes Ex/SC
- Yes
- No

% weight and role provided for all substances.

Screened

- Yes Ex/SC
- Yes
- No

All substances screened using Priority Hazard Lists with results disclosed.

Identified

- Yes Ex/SC
- Yes
- No

One or more substances not disclosed by Name (Specific or Generic) and Identifier and/or one or more Special Condition did not follow guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY | GREENSCREEN SCORE | HAZARD TYPE
--- | --- | --- | --- | ---
L&M™ CRYSTEX™ | QUARTZ LT-1 | CAN | PORTLAND CEMENT LT-P1 | [ ]
| CAN | END UNDISCLOSED LT-1 | CAN | MUL UNDISCLOSED LT-P1 | RES |
| END | PHY UNDISCLOSED | NoGS | UNDISCLOSED LT-UNK | UNDISCLOSED |
| BM-1 | CAN UNDISCLOSED LT-UNK | UNDISCLOSED NoGS | UNDISCLOSED |
| BM-3 | UNDISCLOSED LT-P1 | END | MUL | CAN CALCIUM CARBONATE |
| BM-3 | LIMESTONE; CALCIUM CARBONATE LT-UNK |

Number of Greenscreen BM-4/BM3 contents ... 2

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

This HPD was created with Basic Inventory. Materials listed as Undisclosed in Section 2 is done to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards of these components.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 0.00

Regulatory (g/l): N/A

Does the product contain exempt VOCs: No

Are ultra-low VOC tints available: N/A

CERTIFICATIONS AND COMPLIANCE

See Section 3 for additional listings.

VOC emissions: N/A

VOC content: TDS 251 "Low VOC LATICRETE Products"

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients, Option 1

Third Party Verified?

- Yes
- No

PREPARER: Self-Prepared

VERIFIER:

VERIFICATION #:
Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

L&M™ CRYSTEX™

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities are measured by quantitative methods and are only displayed when they are potentially greater than 100 ppm.

OTHER PRODUCT NOTES: See SDS at www.laticrete.com for occupational exposure information.

QUARTZ

ID: 14808-60-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2018-08-22

<table>
<thead>
<tr>
<th>%: 55.0000 - 60.0000</th>
<th>GS: LT-1</th>
<th>RC: None</th>
<th>NANO: No</th>
<th>ROLE: Aggregate</th>
</tr>
</thead>
</table>

HAZARD TYPE

- CANCER
  - US CDC - Occupational Carcinogens: Occupational Carcinogen
  - CA EPA - Prop 65: Carcinogen - specific to chemical form or exposure route
  - US NIH - Report on Carcinogens: Known to be Human Carcinogen (respirable size - occupational setting)
  - MAK: Carcinogen Group 1 - Substances that cause cancer in man
  - IARC: Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
  - New Zealand - GHS: 6.7A - Known or presumed human carcinogens
  - Japan - GHS: Carcinogenicity - Category 1A
  - Australia - GHS: H350i - May cause cancer by inhalation

SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture.

PORTLAND CEMENT

ID: 65997-15-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2018-08-22

<table>
<thead>
<tr>
<th>%: 40.0000 - 45.0000</th>
<th>GS: LT-P1</th>
<th>RC: None</th>
<th>NANO: No</th>
<th>ROLE: Binder</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
</tr>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:** The amount of this component may vary based on the plant of manufacture.

**UNDISCLOSED**

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.2000 - 0.3000</td>
<td>GS: LT-1</td>
</tr>
<tr>
<td></td>
<td>RC: None</td>
</tr>
<tr>
<td></td>
<td>NANO: No</td>
</tr>
<tr>
<td></td>
<td>ROLE: Water Reducer</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES</td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - REACH Annex XVII CMRs</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>ChemSec - SIN List</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
</tr>
<tr>
<td>CANCER</td>
<td>Australia - GHS</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:** The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.

**UNDISCLOSED**

<table>
<thead>
<tr>
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<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0600 - 0.0700</td>
<td>GS: LT-P1</td>
</tr>
<tr>
<td></td>
<td>RC: None</td>
</tr>
<tr>
<td></td>
<td>NANO: No</td>
</tr>
<tr>
<td></td>
<td>ROLE: Rheology Modifier</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES</td>
</tr>
<tr>
<td>RESPIRATORY</td>
<td>AOEC - Asthmagens</td>
</tr>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
</tr>
<tr>
<td>PHYSICAL HAZARD (REACTIVE)</td>
<td>EU - GHS (H-Statements)</td>
</tr>
<tr>
<td>PHYSICAL HAZARD (REACTIVE)</td>
<td>EU - GHS (H-Statements)</td>
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<td>EU - GHS (H-Statements)</td>
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</tbody>
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<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0500 - 0.1000 GS: NoGS RC: None NANO: No ROLE: Rheology Modifier</td>
<td></td>
</tr>
<tr>
<td>HAZARD TYPE AGENCY AND LIST TITLES WARNINGS</td>
<td></td>
</tr>
<tr>
<td>No hazards found</td>
<td></td>
</tr>
<tr>
<td>SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.</td>
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<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0300 - 0.0400 GS: LT-UNK RC: None NANO: No ROLE: Set Time Adjuster</td>
<td></td>
</tr>
<tr>
<td>HAZARD TYPE AGENCY AND LIST TITLES WARNINGS</td>
<td></td>
</tr>
<tr>
<td>No hazards found</td>
<td></td>
</tr>
<tr>
<td>SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.</td>
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<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0200 - 0.0300 GS: BM-1 RC: None NANO: No ROLE: Defoamer</td>
<td></td>
</tr>
<tr>
<td>HAZARD TYPE AGENCY AND LIST TITLES WARNINGS CANCER MAK</td>
<td></td>
</tr>
<tr>
<td>Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
<td></td>
</tr>
<tr>
<td>SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.</td>
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<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2018-08-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0100 - 0.0200 GS: LT-UNK RC: None NANO: No ROLE: Defoamer</td>
<td></td>
</tr>
<tr>
<td>HAZARD TYPE AGENCY AND LIST TITLES WARNINGS</td>
<td></td>
</tr>
<tr>
<td>No hazards found</td>
<td></td>
</tr>
<tr>
<td>SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.</td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>UNDISCLOSED</td>
<td>Pharos Chemical and Materials Library</td>
</tr>
<tr>
<td>UNDISCLOSED</td>
<td>Pharos Chemical and Materials Library</td>
</tr>
<tr>
<td>UNDISCLOSED</td>
<td>Pharos Chemical and Materials Library</td>
</tr>
<tr>
<td>CALCIUM CARBONATE</td>
<td></td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES: The amount of this component may vary based on the plant of manufacture. This product is shown as undisclosed to preserve integrity of formula and maintain competitive advantage. The component CAS# was used to identify associated hazards.
LIMESTONE; CALCIUM CARBONATE

ID: 1317-65-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2018-08-22

%: Impurity/Residual
GS: LT-UNK
RC: None
NANO: No
ROLE: Impurity/Residual

SUBSTANCE NOTES: This substance is an impurity or residual. This impurity/residual may or may not be present based on the source of the raw material and/or be less than 100ppm.
Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

**VOC EMISSIONS**

<table>
<thead>
<tr>
<th>CERTIFYING PARTY</th>
<th>Self-declared</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES</td>
<td>Applies to All Facilities.</td>
</tr>
<tr>
<td>CERTIFICATE URL</td>
<td>N/A</td>
</tr>
<tr>
<td>ISSUE DATE</td>
<td>2019-12-19</td>
</tr>
<tr>
<td>EXPIRY DATE</td>
<td></td>
</tr>
<tr>
<td>CERTIFIER OR LAB</td>
<td>LATICRETE</td>
</tr>
</tbody>
</table>

**CERTIFICATION AND COMPLIANCE NOTES:** L&M™ CRUSTEX™ has not been tested for VOC emissions.

**VOC CONTENT**

<table>
<thead>
<tr>
<th>CERTIFYING PARTY</th>
<th>Self-declared</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES</td>
<td>Applies to All Facilities.</td>
</tr>
<tr>
<td>CERTIFICATE URL</td>
<td>TDS 251 &quot;Low VOC LATICRETE Products&quot;</td>
</tr>
<tr>
<td>ISSUE DATE</td>
<td>2019-01-18</td>
</tr>
<tr>
<td>EXPIRY DATE</td>
<td></td>
</tr>
<tr>
<td>CERTIFIER OR LAB</td>
<td>LATICRETE</td>
</tr>
</tbody>
</table>

**CERTIFICATION AND COMPLIANCE NOTES:**

There are no guidelines for maximum VOC content for structural grout materials in LEED v4. Please take note of the VOC content as stated in Section 1: VOLATILE ORGANIC COMPOUND (VOC) CONTENT.

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

**WATER**

<table>
<thead>
<tr>
<th>HPD URL</th>
<th>No HPD Available</th>
</tr>
</thead>
</table>

**CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:**

L&M CRYSTEX to be mixed with water only following mix ratios and directions as stated on product data sheet.

Section 5: General Notes

L&M™ CRUSTEX™ meets the Living Building Challenge v3.1 requirement that the product does not contain any of the Red Listed Materials or Chemicals. Specifically, L&M CRUSTEX does not contain the following:

- Alkylphenols*
- Asbestos* Bisphenol A (BPA)* Cadmium Chlorinated Polyethylene & Chlorosulfonated Polyethylene
- Chlorobenzenes* Chlorofluorocarbons (CFCs) & Hydrochlorofluorocarbons (HCFCs)* Chloroprene (Neoprene)
- Chromium VI* Chlorinated Polyvinyl Chloride (CPVC)* Formaldehyde (all types - added) Halogenated Flame Retardants (HFRs)* Lead (added) Mercury Polychlorinated Biphenyls (PCBs)* Perfluorinated Compounds (PFCs)* Phthalates Polyvinyl Chloride (PVC) Polyvinylidene Chloride (PVDC)* Short Chain Chlorinated Paraffins*
- Wood treatments containing Creosote, Arsenic or Pentachlorophenol. L&M CRUSTEX also does not contain the following California-defined Group II toxic exempt solvents: Methylen Chloride (Dichloromethane) 1,1,1-
trichloroethane (methyl chloroform) • Trichlorofluoromethane (CFC-11) • Dichlorofluoromethane (CFC-12) • 1,1,2-
trichloro-1,2,2-trifluoroethane (CFC-113) • 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114)
• Chloropentafluorooethane (CFC-115) • Cyclic, Branched or Linear, Completely Methylated Siloxanes • (VMS)
• Tetrachloroethylene (perchloroethylene) • Ethylfluoride (HFC-161) • 1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
• 1,1,2,3,3-pentafluoropropane (HFC-245ca) • 1,1,2,3,3-pentafluoropropane (HFC-245ea) • 1,1,1,2,3-
pentafluoropropane (HFC-245eb) • 1,1,1,3,3-pentafluoropropane (HFC-245fa) • 1,1,1,2,3,3-hexafluoropropane (HFC-
236ea) • 1,1,1,3,3-pentafluorobutane (HFC-365mfc) • chlorofluoromethane (HCFC-31) • 1,2-dichloro-1,1,2-
trifluoroethane (HCFC-123a) • 1 chloro-1-fluoroethane )HCFC-151a)
MANUFACTURER INFORMATION

MANUFACTURER: LATICRETE International
ADDRESS: 1 Laticrete Park North
Bethany CT 06524, USA
WEBSITE: www.laticrete.com

CONTACT NAME: Mitch Hawkins
TITLE: Senior Manager, Technical Services
PHONE: 203-393-4619
EMAIL: wmhawkins@laticrete.com

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation

GLO Global warming
MAM Mammalian/systemic/toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic

PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspecified (insufficient data to benchmark)

LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:

- Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
- Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
- Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.