Concrete Masonry Unit (CMU) - Light Weight with Pumice
by Angelus Block Co., Inc.

CLASSIFICATION: 04 22 00 Masonry: Concrete Unit Masonry

PRODUCT DESCRIPTION: Angelus Block is the prominent producer of concrete masonry units (cmu), interlocking concrete pavers, permeable pavers, decorative site wall units, and segmental planter wall units in California. Angelus Block is committed to advancing its products in support of sustainability goals, and green rating system value. In addition to our collection of HPDs, we were the first to publish a Type III EPD based on North America’s first PCR for concrete masonry products. This HPD covers Lightweight cmu, with the inclusion of pumice for aesthetic effect, in Precision, Split Face, Burnished, and Shotblast textures. Units are available in multiple widths and heights.

### Section 1: Summary

**Basic Method / Product Threshold**

<table>
<thead>
<tr>
<th>Threshold level</th>
<th>Residuals/Impurities</th>
<th>All Substances Above the Threshold Indicated Are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ppm</td>
<td>Considered</td>
<td>Characterized Yes Ex/SC Yes No</td>
</tr>
<tr>
<td>1,000 ppm</td>
<td>Partially Considered</td>
<td>% weight and role provided for all substances except SC substances characterized according to SC guidance.</td>
</tr>
<tr>
<td>Per GHS SDS</td>
<td>Not Considered</td>
<td>Screened Yes Ex/SC Yes No</td>
</tr>
<tr>
<td>Per OSHA MSDS</td>
<td></td>
<td>All substances screened using Priority Hazard Lists with results disclosed except SC substances screened according to SC guidance.</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>Identified Yes Ex/SC Yes No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All substances disclosed by Name (Specific or Generic) and Identifier except SC substances identified according to SC guidance.</td>
</tr>
</tbody>
</table>

**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.

**CONTENT IN DESCENDING ORDER OF QUANTITY**

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>SUBSTANCE</th>
<th>RESIDUAL OR IMPURITY</th>
<th>GREENSCREEN SCORE</th>
<th>HAZARD TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCRETE MASONRY UNIT (CMU) - LIGHT WEIGHT WITH PUMICE</td>
<td>SC:NATURAL SAND Not Screened SHALE, EXPANDED, AGGREGATES NoGS</td>
<td>PUMICE LT-UNK PORTLAND CEMENT LT-P1</td>
<td>CAN</td>
<td>END LIMESTONE; CALCIUM CARBONATE LT-UNK SODIUM DODECYLBENZENE SULFONATE LT-P1</td>
</tr>
</tbody>
</table>

**VOLATILE ORGANIC COMPOUND (VOC) CONTENT**

VOC Content data is not applicable for this product category.

**CERTIFICATIONS AND COMPLIANCE**

See Section 3 for additional listings.

VOC emissions: CDPH Standard Method – Not tested
Multi-attribute: Type III Environmental Product Declaration (EPD)

**CONSISTENCY WITH OTHER PROGRAMS**

Pre-checked for LEED v4 Material Ingredients, Option 1 and Option 2

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**INVENTORY AND SCREENING NOTES:**

Special conditions applied: GeologicalMaterial

[LEED v4] "Yes ex/SC" result is due only to materials and substances for which Special Conditions were applied. Thus "Yes ex/SC" does not disqualify the product for the LEED v4 Materials and Resources Disclosure and Optimization credit, Option 1.

This Health Product Declaration (HPD) was completed in accordance with the HPD Standard version 2.1.1, and discloses hazards associated with all substances present at or above 100 parts per million (ppm) in the finished product, along with the role and percent weight.

**VOLATILE ORGANIC COMPOUND (VOC) CONTENT**

VOC Content data is not applicable for this product category.

**CONSISTENCY WITH OTHER PROGRAMS**

Pre-checked for LEED v4 Material Ingredients, Option 1 and Option 2

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**Third Party Verified?**

Yes

**PREPARATOR:** Self-Prepared

**VERIFIER:** Self-Prepared

**SCREENING DATE:** 2019-10-08

**PUBLISHED DATE:** 2019-10-10

**EXPIRY DATE:** 2022-10-08

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Concrete Masonry Unit (CMU) - Light Weight with Pumice
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 2.1.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-1-standard

CONCRETE MASONRY UNIT (CMU) - LIGHT WEIGHT WITH PUMICE

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals and Impurities were considered by following the suggestions of Emerging Best Practices. As Pharos CML lists component substances of Portland cement and various geological materials as “Known or Potential Residuals”, these components have been included in the relevant Substance Notes instead of as individual content entries. The typical composition for each of these entries is disclosed as per supplier SDS when available; otherwise, information is from Pharos CML. Components are listed by name, CASRN, percent by weight, and relevant GreenScreen score.

OTHER PRODUCT NOTES: Percent by weight of substances reported as ranges in order to account for formula variations between manufacturing plants.

SC:NATURAL SAND

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-10-08

<table>
<thead>
<tr>
<th>%: 25.00 - 50.00</th>
<th>GS: Not Screened</th>
<th>RC: None</th>
<th>NANO: No</th>
<th>ROLE: Fine Aggregate</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></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES:
Version: SCGeoMats/2018-02-23
Origin: Sun Valley, CA; Corona, CA; Fillmore, CA
Typical Composition: 70-90% Silica (Quartz, Cristobalite, Tridymite), SiO2 [14808-60-7; LT-1 | CAN]; 12-15% Aluminum Oxide [1344-28-1; BM-2 | RES]; 1.5-2.5% Calcium Oxide [1305-78-8; LT-P1 | NO]; 0.5-2.0% Iron Oxide [1309-37-1; BM-2 | CAN]
Potential presence of toxic metals: None indicated by suppliers
Presence of Radioactive Elements: None indicated by suppliers

Natural sand obtained from various suppliers in the Southern California region. Contact manufacturer if more information is required.

SHALE, EXPANDED, AGGREGATES

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-10-08

<table>
<thead>
<tr>
<th>%: 20.00 - 40.00</th>
<th>GS: NoGS</th>
<th>RC: None</th>
<th>NANO: No</th>
<th>ROLE: Lightweight Aggregate</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></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

None found

No warnings found on HPD Priority Hazard Lists
**PUMICE**

**ID:** 1332-09-8

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-10-08

| %: | 15.00 - 20.00 | GS: LT-UNK | RC: None | NANO: No | ROLE: Lightweight Course Aggregate |

**HAZARD TYPE**  
None found

**WARNINGS**  
No warnings found on HPD Priority Hazard Lists

**SUBSTANCE NOTES:** Identified on the US EPA Safer Chemical Ingredient List (Green Circle - Verified Low Concern).

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**PORTLAND CEMENT**

**ID:** 65997-15-1

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-10-08

| %: | 10.00 - 20.00 | GS: LT-P1 | RC: None | NANO: No | ROLE: Binder |

**HAZARD TYPE**  
CANCER  
ENDOCRINE

**WARNINGS**  
Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification  
Potential Endocrine Disruptor

**SUBSTANCE NOTES:** NIST lists the composition of Portland Cement as including: Calcium Oxide (64%) [1305-78-8; LT-P1 | NO]; Silicon Dioxide (20%) [7631-86-9; LT-P1 | CAN]; Aluminum Oxide (5%) [1344-28-1; BM-2 | RES]; Iron III Oxide (4%) [1309-37-1; BM-2 | CAN]; Sulfur Trioxide (3%) [7446-11-9; LT-P1 | MAM]; and Magnesium Oxide (1%) [1309-48-4; LT-UNK | CAN]. Supplier documentation also includes the following components: 0-15% Limestone [1317-65-3; LT-UNK | NO]; 5-7% Gypsum [13397-24-5; LT-UNK | NO]; 0-0.3% Quartz [14808-60-7; LT-1 | CAN]. Supplier SDS states: "Trace Elements: Portland cement is made from materials mined from the earth and is processed using energy provided by fuels. Trace amounts of naturally occurring, potentially harmful chemicals might be detected during chemical analysis. For example, Portland cement may contain up to 1.50% insoluble residue, some of which may be free crystalline silica. Other trace constituents may include calcium oxide, free magnesium oxide, potassium and sodium sulfate compounds, and trace metal compounds." A Type III Environmental Product Declaration (EPD) is available for the Portland Cement used in this product.

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**LIMESTONE; CALCIUM CARBONATE**

**ID:** 1317-65-3

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-10-08

| %: | 1.00 - 5.00 | GS: LT-UNK | RC: None | NANO: No | ROLE: Pigment; Filler |

**HAZARD TYPE**  
None found

**WARNINGS**  
No warnings found on HPD Priority Hazard Lists

**SUBSTANCE NOTES:** Identified on the US EPA Safer Chemical Ingredient List (Green Circle - Verified Low Concern).

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**SODIUM DODECYLBENZENE SULFONATE**

**ID:** 25155-30-0
### Silica, Amorphous

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD</th>
<th>Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE</th>
<th>2019-10-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>%:</td>
<td>Impurity/Residual</td>
<td>GS:</td>
<td>LT-P1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RC:</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NANO:</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ROLE:</td>
<td>Impurity/Residual</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to</td>
<td>Class 2 - Hazard to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waters</td>
<td>Waters</td>
<td></td>
</tr>
</tbody>
</table>

**WARNINGS**

- **CANCER**
  - GHS - Australia: H350i - May cause cancer by inhalation
  - GHS - Japan: Carcinogenicity - Category 1A [H350]

**SUBSTANCE NOTES:**

- Identified on the US EPA Safer Chemical Ingredient List (Green Circle - Verified Low Concern).
- Possible impurity of pumice, as per Pharos CML.
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>
<th>CDPH Standard Method – Not tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>N/A</td>
<td>ISSUE DATE: 2019-05-20</td>
</tr>
<tr>
<td>CERTIFICATE URL:</td>
<td></td>
<td>EXPIRY DATE:</td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

CERTIFICATION AND COMPLIANCE NOTES:

### MULTI-ATTRIBUTE

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Third Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>Tuxford Plant (Sun Valley, CA 91352); Orange Plant (Orange, CA 92865); Fontana Plant (Fontana, CA 92335); Gardena Plant (Gardena, CA 90248); Oxnard Plant (Oxnard, CA 93036); Indio Plant (Indio, CA 92202)</td>
</tr>
<tr>
<td>CERTIFICATE URL:</td>
<td><a href="http://www.angelusblock.com/assets/docs/Angelus_Block_CMU_Type_III_EP.pdf">http://www.angelusblock.com/assets/docs/Angelus_Block_CMU_Type_III_EP.pdf</a></td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>ASTM International</td>
</tr>
</tbody>
</table>

CERTIFICATION AND COMPLIANCE NOTES: This document is a product-specific Type III environmental product declaration (EPD) for 69 concrete masonry unit (CMU) mix designs manufactured by Angelus Block Co., Inc. This declaration has been prepared in accordance with ISO 14025, ISO 21930, and ASTM International's EPD program operator rules. Declared Unit: 1 m³ of concrete formed into manufactured concrete and concrete masonry products. ASTM Declaration Number: EPD-010.

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.

### SPEC MIX® PREBLENDED MORTAR

| HPD URL: | No HPD Available |
| CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: | Use for installation of concrete masonry units. |

### SPEC MIX® IWR PREBLENDED MORTAR

| HPD URL: | No HPD Available |
| CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: | Use for installation of concrete masonry units where an integral water repellent is desired. |

Section 5: General Notes

Concrete Masonry Unit (CMU) – Light Weight with Pumice
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.