Concrete Masonry Unit (CMU) - Normal Weight by Angelus Block Co., Inc.

Health Product Declaration v2.1

CLASSIFICATION: 04 22 00 Concrete Unit Masonry

created via: HPDC Online Builder

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 are the first to publish a Type III EPD based on North America's first PCR for concrete masonry products. We have a robust Take-Back Program supported by our four recycling facilities from which we generate our recycled aggregate. Most standard products contain recycled material, with higher amounts available. We maintain an ICC-ES VAR report for a product with 25% post-consumer recycled content. This HPD covers Normal Weight cmu in Precision, with optional textures of Split Face, Burnished, and Shotblast, and Slumpstone textures. Units are available in multiple widths and heights, with and without pigments.

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

Explanation(s) provided for Residuals/Impurities?
- ◉ Yes ○ No

Are All Substances Above the Threshold Indicated:

Characterized *Percent Weight and Role Provided?* ◉ Yes ○ No

Screened *Using Priority Hazard Lists with Results Disclosed?* ◉ Yes ○ No

Identified *Name and Identifier Provided?* ○ Yes ◉ No

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

CONCRETE MASONRY UNIT (CMU) - NORMAL WEIGHT [QUARTZ LT-1 | CAN GRAVEL NoGS PORTLAND CEMENT LT-P1 | CAN | END LIMESTONE; CALCIUM CARBONATE LT-UNK GYPSUM LT-UNK IRON OXIDE LT-UNK | CAN FERRIC OXIDE YELLOW LT-UNK CHROMIUM (III) OXIDE LT-P1 SODIUM DODECYLBENZENE SULFONATE LT-P1 | MUL]

Number of Greenscreen BM-4/BM3 contents..... 0
Contents highest concern GreenScreen Benchmark or List translator Score..... LT-1
Nanomaterial..... No

INVENTORY AND SCREENING NOTES:

This Health Product Declaration (HPD) was completed in accordance with the HPD Standard version 2.1, 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. Therefore, this HPD qualifies for the LEED v4 MR credit Building Product Disclosure and Optimization: Material Ingredient Reporting (Option 1).

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE

See Section 3 for additional listings.

Multi-attribute: Type III Environmental Product Declaration (EPD)
Recycled content: ICC-ES Report

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients, Option 1

Third Party Verified?
- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2017-09-05
PUBLISHED DATE: 2017-09-12
EXPIRY DATE: 2020-09-05

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

CONCRETE MASONRY UNIT (CMU) - NORMAL WEIGHT

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Partially

RESIDUALS AND IMPURITIES NOTES: Residuals or impurities that are known or expected to be present that return a GS score of BM-1, LT-1 or LT-P1 have been disclosed, based on information provided in supplier MSDS/SDS. Efforts are being made to better understand residuals/impurities as they actually occur in our cmu, and findings will be disclosed in future revisions of this HPD.

OTHER PRODUCT NOTES: Percent by weight of substances reported as ranges in order to protect the proprietary nature of this formulation.

QUARTZ

ID: **14808-60-7**

%: **45.0000 - 65.0000** GS: **LT-1** RC: **Both** NANO: **No** ROLE: **Fine Aggregate; Residual/Impurity**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CANCER	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CANCER	New Zealand - GHS	6.7A - Known or presumed human carcinogens
CANCER	Australia - GHS	H350 - May cause cancer

SUBSTANCE NOTES: Natural sand (ASTM C33). Quartz is one of several compounds with warnings restricted to respirable forms; i.e. "Silica, crystalline (airborne particles of respirable size)." Awaiting full GreenScreen Assessment for form specific hazards for this compound (http://ow.ly/Z5ken). May also represent possible impurity present in other raw materials. Substance encapsulated within the cmu.

GRAVEL

ID: **Not registered**

%: **20.0000 - 40.0000** GS: **NoGS** RC: **Both** NANO: **No** ROLE: **Course Aggregate**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
None Found	No warnings found on HPD Priority lists	

SUBSTANCE NOTES: Specific guidelines are being created to address known issues related to transparency and disclosure for several materials

("Special Conditions"), including Geological Materials such as the various aggregates (e.g. gravel) commonly used in masonry products. This HPD will be updated as appropriate when the guidelines for Geological Materials are released. Kinds of stone used in U.S. crushed stone production include: limestone [1317-65-3; LT-UNK | NO] and dolomite [16389-88-1; UNK | NO], granite [No CAS; UNK | NO], traprock, marble [No CAS; LT-UNK | NO], calcareous marl, slate, shell, and volcanic cinder and scoria (USGS via Pharos CML).

PORTLAND CEMENT

ID: **65997-15-1**

%: **5.0000 - 15.0000** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Binder**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
CANCER	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor

SUBSTANCE NOTES: Substance encapsulated within the cmu. NIST lists the composition of Portland Cement as including: Calcium Oxide (64%) [1305-78-8; LT-UNK | NO]; Silicon Dioxide (20%) [7631-86-9; LT-P1 | NO]; Aluminum Oxide (5%) [1344-28-1; LT-UNK | RES]; Iron III Oxide (4%) [1309-37-1; BM-2 | CAN]; Sulfur Trioxide (3%) [7446-11-9; LT-UNK | NO]; and Magnesium Oxide (1%) [1309-48- 4; LT-UNK | NO]. Supplier SDS states the following: "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."

LIMESTONE; CALCIUM CARBONATE

ID: **1317-65-3**

%: **1.0000 - 5.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Pigment; Component of Portland Cement**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Identified on the U.S. EPA Safer Choice Ingredient List. Substance encapsulated within the cmu.

GYPSUM

ID: **13397-24-5**

%: **0.1000 - 1.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Component of Portland Cement**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Substance encapsulated within the cmu.

IRON OXIDE

ID: **1317-61-9**

%: **0.0000 - 1.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Pigment**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
CANCER	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES: Substance encapsulated within cmu.

FERRIC OXIDE YELLOW

ID: **51274-00-1**

%: **0.0000 - 1.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Pigment**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Substance encapsulated within the cmu.

CHROMIUM (III) OXIDE

ID: **1308-38-9**

%: **0.0000 - 1.0000** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Pigment**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Substance encapsulated within the cmu.

SODIUM DODECYLBENZENE SULFONATE

ID: **25155-30-0**

%: **0.0000 - 0.0200** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Admixture: Plasticizer**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: Identified on the U.S. EPA Safer Choice Ingredient List. Substance encapsulated within the cmu. The admixture containing this substance is not used in certain plant formulations. With the exception of water [BM-4 | NO], all substances within the alternate admixtures fall below the inventory threshold indicated.

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.

MULTI-ATTRIBUTE **Type III Environmental Product Declaration (EPD)**

CERTIFYING PARTY: Third Party

APPLICABLE FACILITIES: Tuxford Plant (Sun Valley, CA 91352); Sheldon 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

ISSUE DATE: 2015-03-16

EXPIRY DATE: 2020-03-16

CERTIFIER OR LAB: ASTM International

92202)

CERTIFICATE URL:
www.angelusblock.com/docs/Angelus_Block_CMU_Type_III_EPD.pdf

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.

RECYCLED CONTENT **ICC-ES Report**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Tuxford Plant (Sun Valley, CA 91352); Sheldon 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)
CERTIFICATE URL: www.angelusblock.com/docs/VAR-1018.pdf

ISSUE DATE:2016-04-01

EXPIRY DATE: 2018-04-01

CERTIFIER OR LAB: ICC Evaluation Service

CERTIFICATION AND COMPLIANCE NOTES: ICC-ES Verification of Attributes Environmental Report (VAR-1018). EVALUATION SCOPE: Compliance with the following: ICC-ES Environmental Criteria for Determination of Recycled Content of Materials (EC101), dated March 1, 2012. Angelus Block concrete masonry units (all sizes) Minimum Recycled Content: 25% Post-Consumer Recycled 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.

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

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **Angelus Block Co., Inc.**
ADDRESS: **11374 Tuxford Street**
Sun Valley CA 91352, USA
WEBSITE: **www.AngelusBlock.com**

CONTACT NAME: **John Surratt**
TITLE: **Architectural Sales Manager**
PHONE: **714-637-8594**
EMAIL: **jsurratt@angelusblock.com**

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classi cation 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/organ 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 Unspeci ed (insu cient 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 produc

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

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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.