

CLASSIFICATION: 32 14 00 Exterior Improvements: Unit Paving

PRODUCT DESCRIPTION: Unilock’s manufacturing teams have an unrelenting commitment to shipping only top quality products. Every Unilock product is durable, made with colorfast pigments, slip resistant, resistant to salt erosion, and designed to tolerate oil and gas spills. Granite, quartz and marble are exposed in the fine blasted surface of these large format slabs to deliver brilliant color and a non-slip surface. The silky, matte appearance of Arcana is further enhanced with EasyClean Stain Resistance for easier cleanup of spills. This HPD covers Unilock’s Arcana product line manufactured at our world class facility in Aurora, Illinois. Also includes CSI MasterFormat 32 14 13 Precast Concrete Unit Paving.

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

All Substances Above the Threshold Indicated Are:

Characterized Yes Ex/SC Yes No

% weight and role provided for all substances except SC substances characterized according to SC guidance.

Screened Yes Ex/SC Yes No

All substances screened using Priority Hazard Lists with results disclosed except SC substances screened according to SC guidance.

Identified Yes Ex/SC Yes No

All substances disclosed by Name (Specific or Generic) and Identifier except SC substances identified according to SC 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

ARCANA ARCHITECTURAL PAVERS [LIMESTONE, CALCIUM CARBONATE LT-UNK PORTLAND CEMENT LT-P1 | END | CAN SC:NATURAL SAND Not Screened BLAST FURNACE SLAG LT-UNK QUARTZ LT-1 | CAN SILICA, AMORPHOUS LT-P1 | CAN FLY ASH LT-UNK CALCIUM OXIDE LT-P1 SULFUR TRIOXIDE LT-P1 | MAM IRON OXIDE LT-UNK | CAN FERRIC OXIDE BM-2 | CAN FERRIC OXIDE YELLOW LT-UNK TITANIUM DIOXIDE LT-1 | CAN | END]

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:

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 1000 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.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: CDPH Standard Method – Not tested

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: 2019-11-25

PUBLISHED DATE: 2019-12-17

EXPIRY DATE: 2022-11-25



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

ARCANA ARCHITECTURAL PAVERS

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Partially

RESIDUALS AND IMPURITIES NOTES: Residuals and Impurities were "Considered", as outlined in Emerging Best Practices for most substances. Residuals or impurities with the potential to be present at or above the Content Inventory Threshold indicated that return a GS score of BM-1, LT-1, LT-P1 or NoGS have been disclosed for these substances based on information provided in supplier disclosure letters, supplier SDS, and as predicted by process chemistry (Pharos CML). Residuals/impurities for Fly Ash (68131-74-8) have been considered as per supplier documentation only.

OTHER PRODUCT NOTES: Percent by weight of substances reported as range to account for possible formulation variations.

LIMESTONE, CALCIUM CARBONATE

ID: 1317-65-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-11-25

#: 30.00 - 35.00

GS: LT-UNK

RC: None

NANO: No

ROLE: Aggregate

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

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

PORTLAND CEMENT

ID: 65997-15-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-11-25

#: 5.50 - 15.00

GS: LT-P1

RC: None

NANO: No

ROLE: Cement Binder

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

ENDOCRINE

TEDX - Potential Endocrine Disruptors

Potential Endocrine Disruptor

CANCER

MAK

Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES: Includes Portland cement and white cement from multiple suppliers. From supplier documentation: "Cement is made from materials mined from the earth and processed using energy provided by fuels. Additional materials, such as fly ash, kiln dust and slag may also be introduced into the cement manufacturing process. A chemical analysis of cement may reveal trace amounts of naturally occurring but potentially harmful chemical compounds such as free crystalline silica, organic compounds, potassium and sodium compounds, heavy metals including cadmium, chromium (including hexavalent chromium), nickel and lead. Other trace constituents may include calcium oxide (also known as free lime or quick lime) and organic compounds from grinding aids such as amine acetate salts, glycols and 1,2-ethanediol."

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

%: **5.00 - 10.00** GS: **Not Screened** RC: **None** NANO: **No** ROLE: **Aggregate**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

Hazard Screening not performed

SUBSTANCE NOTES:

Version: SCGeoMats/2018-02-23

Origin: Varies by supplier. Please contact manufacturer if more information is required.

Typical Composition: 50-99% Quartz/Silica (14808-60-7); <26% Tridymite (15468-32-3); <13% Christobalite (14464-46-1).

Potential presence of toxic metals: None indicated by suppliers

Presence of Radioactive Elements: None indicated by suppliers

Concrete sand.

BLAST FURNACE SLAG

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

%: **4.50 - 10.00** GS: **LT-UNK** RC: **PreC** NANO: **No** ROLE: **Cement Binder**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Slag cement. Other means of identification: GGBFS; Ground Granulated Blast Furnace Cement. Industrial uses in manufacture of concrete, portland cement, blended cement and other building and construction materials. Supplier documentation states: The majority of components in Granulated Blast Furnace Slag are various glassy Metallic Silicates (Iron, Calcium, Magnesium, Aluminum, and Titanium Silicates), including: Dicalcium Silicate (Ca2SiO4) 14284-23-2, Merwinite (Ca3MgSi2O8) 13813-64-4, and Gehlenite (Ca2Al2SiO7) 1302-56-3. Granulated blast-furnace slag is a co-product of the steel industry produced by adding a limestone flux to the ore to remove non-ferrous contaminants. As such, it may contain small quantities of hazardous heavy metals, including trace amounts of chromium, usually in solution in the glass. Ground granulated blast-furnace slag (GGBFS) is a vitreous material containing silica, alumina, magnesia and calcium oxides. It also contains a small quantity of iron, sodium, titanium and manganese oxides. The oxides do not actually occur in free form but as complexed silica-based glasses.

QUARTZ

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

%: **Impurity/Residual** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
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	GHS - New Zealand	6.7A - Known or presumed human carcinogens
CANCER	GHS - Japan	Carcinogenicity - Category 1A [H350]
CANCER	GHS - Australia	H350i - May cause cancer by inhalation

SUBSTANCE NOTES: Sources: Natural Sand; Limestone (1317-65-3); Portland cement (65997-15-1); Slag Cement (65996-69-2); Fly Ash (68131-74-8).

SILICA, AMORPHOUS

ID: 7631-86-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

#: **Impurity/Residual** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	GHS - Japan	Carcinogenicity - Category 1A [H350]
CANCER	GHS - Australia	H350i - May cause cancer by inhalation

SUBSTANCE NOTES: Potential sources: Slag Cement (65996-69-2); Fly Ash (68131-74-8). As per Pharos CML: Pollutant/Contaminant; Frequent; % Unknown.

FLY ASH

ID: 68131-74-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

#: **0.50 - 3.50** GS: **LT-UNK** RC: **PreC** NANO: **No** ROLE: **Cement Binder**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: As per supplier statement: Fly ash is a by-product of coal combustion and as such may contain variable trace amounts of various different elements depending on the natural source of the coal. These may include arsenic, antimony, lead, nickel, manganese, chromium, boron, beryllium, selenium, cadmium, mercury, vanadium, uranium and other metals in trace (<0.1%) amounts.

CALCIUM OXIDE

ID: 1305-78-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-11-25**

%: Impurity/Residual	GS: LT-P1	RC: None	NANO: No	ROLE: Impurity/Residual
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HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Sources: Portland Cement; Slag Cement; Fly Ash. As per Pharos CML: Component; Frequent; % Unknown.

SULFUR TRIOXIDE

ID: 7446-11-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-11-25**

%: Impurity/Residual	GS: LT-P1	RC: None	NANO: No	ROLE: Impurity/Residual
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HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

MAMMALIAN

US EPA - EPCRA Extremely Hazardous Substances

Extremely Hazardous Substances

SUBSTANCE NOTES: Potential source: Portland cement. As per Pharos CML: Component; Integral; 3.0%.

IRON OXIDE

ID: 1317-61-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-11-25**

%: 0.00 - 1.00	GS: LT-UNK	RC: None	NANO: No	ROLE: Pigment
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HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

MAK

Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES: Percent by weight of substance reported as a range due to different colors available. Contact manufacturer if more information is required.

FERRIC OXIDE

ID: 1309-37-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-11-25**

%: 0.00 - 1.00	GS: BM-2	RC: None	NANO: No	ROLE: Pigment
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HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

MAK

Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES: GreenScreen Benchmark® assessment score of BM-2 was provided by the HPD Builder Tool. Percent by weight of substance reported as a range due to different colors available. Contact manufacturer if more information is required.

FERRIC OXIDE YELLOW

ID: 51274-00-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

#: **0.00 - 1.00** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Pigment**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Percent by weight of substance reported as a range due to different colors available. Contact manufacturer if more information is required.

TITANIUM DIOXIDE

ID: 13463-67-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2019-11-25**

#: **0.00 - 1.00** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Pigment**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CANCER	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
CANCER	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

SUBSTANCE NOTES: Pigmentary Titanium Dioxide is identified on the US EPA Safer Chemical Ingredient List (Green Circle - Verified Low Concern). Percent by weight of substance reported as a range due to different colors available. Contact manufacturer if more information is required. May also represent potential impurity in fly ash.

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

CDPH Standard Method – Not tested

CERTIFYING PARTY: **Self-declared**

ISSUE DATE: **2019-**

EXPIRY DATE:

CERTIFIER OR LAB: **N/A**

APPLICABLE FACILITIES: **N/A**

08-14

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

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.

No accessories are required for this product.

Section 5: General Notes



MANUFACTURER INFORMATION

MANUFACTURER: **Unilock**
 ADDRESS: **401 The West Mall**
Suite 610
Toronto ON M9C 5J5, CANADA
 WEBSITE: **www.unilock.com**

CONTACT NAME: **Brad Swanson**
 TITLE: **Director of Commercial Sales**
 PHONE: **800-864-5625**
 EMAIL: **Brad.Swanson@unilock.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	GLO Global warming	PHY Physical Hazard (reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive toxicity
DEV Developmental toxicity	MUL Multiple hazards	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	OZO Ozone depletion	LAN Land Toxicity
GEN Gene mutation	PBT Persistent Bioaccumulative Toxic	NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-P1 List Translator Possible Benchmark 1
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-1 List Translator Likely Benchmark 1
BM-2 Benchmark 2 (use but search for safer substitutes)	LT-UNK List Translator Unknown (insufficient information from List Translator lists to benchmark)
BM-1 Benchmark 1 (avoid - chemical of high concern)	NoGS Unknown (no data on List Translator Lists)
BM-U Benchmark Unspecified (insufficient data to benchmark)	

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.