

CLASSIFICATION: 03 45 00

PRODUCT DESCRIPTION: This HPD covers the SmartCast Reflect Slab by Permacon (Oldcastle). The white colour of SmartCast Reflect slabs achieves a laboratory-calculated solar reflectance index (SRI*) greater than 86. This slab is appropriate for all rooftop terrace paving projects that aim to reduce ambient temperature (urban heat islands). SmartCast Reflect slabs come in a 600 mm x 600 mm format with a thickness of 50 mm. They are durable and also have a slip-resistant surface to ensure pedestrian safety. The concrete of the slab achieves a superior flexural strength exceeding 4.5 MPa. Slabs can be safely installed on pedestals and withstand live loads of 300 kg (660 lb). SmartCast Reflect slabs have a slightly granular, slip-resistant finish with the look of cut stone. Available in white only.

Section 1: Summary

Nested 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

Residuals/Impurities
Considered in 3 of 4 Materials

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

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

SC:GEOMAT:AGGREGATES#2 [SC:SAND AND GRAVEL Not Screened]

SC:GEOMAT:AGGREGATES#1 [SC:LIMESTONE Not Screened]

CEMENTITIOUS MATERIALS #1 [PORTLAND CEMENT LT-P1 | END | CAN

BLAST FURNACE SLAG LT-UNK CALCIUM OXIDE LT-P1 QUARTZ LT-1 |

CAN CHROMIUM (VI) COMPOUNDS LT-1 | CAN | DEL | REP | SKI | GEN

NICKEL COMPOUNDS LT-1 | RES | CAN] WATER [WATER BM-4]

Number of Greenscreen BM-4/BM3 contents ... 1

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.

The SmartCast Reflect Slab by Permacon (Oldcastle) has been screened at 1,000 ppm so that all intentional materials and known potential residuals and impurities present above that threshold have been reported. It is important to note that admixtures and white pigment have not been reported in this HPD since they are below 1,000 ppm. The SmartCast Reflect Slab contains special condition materials, geological materials, which have been reported accordingly.

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 V1.2 (Section 01350/CHPS) - Not Applicable

CONSISTENCY WITH OTHER PROGRAMS

No pre-checks completed or disclosed.

Third Party Verified?

Yes

No

PREPARER: **Self-Prepared**

VERIFIER:

VERIFICATION #:

SCREENING DATE: **2019-04-09**

PUBLISHED DATE: **2019-04-09**

EXPIRY DATE: **2022-04-09**



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

SC:GEOMAT:AGGREGATES#2

#: 60.6000

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: No residuals and impurities reported by supplier besides the Special Condition Material requirements.

OTHER MATERIAL NOTES: SpecialConditionApplied:GeologicalMaterial --- Aggregates #2 consist mostly of sand and gravel.

SC:SAND AND GRAVEL

ID: SC:GeoMat

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-04-09

#: 100.0000

GS: Not Screened

RC: None

NANO: No

ROLE: Coarse and fine aggregates

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

Hazard Screening not performed

SUBSTANCE NOTES:

Version: SCGeoMats/2018-02-23

Origin: Canada, Ontario

Typical Composition: dolomitic limestone, carbonate type

Potential presence of toxic metals: One supplier reported trace amounts of toxic materials < 100 ppm.

Presence of Radioactive Elements: No knowledge about the presence of radioactive elements from quarry/pits.

Sand and gravel coming from multiple sources all from the same region.

SC:GEOMAT:AGGREGATES#1

#: 20.6000

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: No residuals and impurities reported by supplier besides the Special Condition Material requirements.

OTHER MATERIAL NOTES: SpecialConditionApplied:GeologicalMaterial --- White aggregates mostly limestone.

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

HAZARD SCREENING DATE: **2019-04-09**

%: **100.0000** GS: **Not Screened** RC: **None** NANO: **No** ROLE: **main substance**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
Hazard Screening not performed		

SUBSTANCE NOTES:

Version: SCGeoMats/2018-02-23

Origin: Canada, Ontario

Typical Composition: Limestone, Silica (Quartz)

Potential presence of toxic metals: No knowledge of the presence of toxic materials by supplier

Presence of Radioactive Elements: No knowledge of the presence of radioactive materials by supplier

See Other Material Notes. Applicable CAS RN: 1317-65-3, 14808-60-7.

CEMENTITIOUS MATERIALS #1

%: **13.8000**

PRODUCT THRESHOLD: **1000 ppm**

RESIDUALS AND IMPURITIES CONSIDERED: **Yes**

RESIDUALS AND IMPURITIES NOTES: **Supplier A: "There a no additional ingredients present which, within the current knowledge of the supplier and in the concentration applicable, are classified as hazardous." -/- Supplier B: No residuals and impurities reported above 1000 ppm for the component by the supplier. -/- Supplier C: Potential presence of Chromate and Nickel compounds as impurities below 1000 ppm.**

OTHER MATERIAL NOTES: **Mix of cementitious materials comprising white cement, type 10 cement and slag cement. This depicts an average composition. Ranges are introduced due to generic data for some cements.**

PORTLAND CEMENT

ID: **65997-15-1**

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

HAZARD SCREENING DATE: **2019-04-09**

%: **80.4000 - 86.0000** GS: **LT-P1** RC: **UNK** NANO: **No** ROLE: **main ingredient**

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: **See Other Material Notes.**

BLAST FURNACE SLAG

ID: **65996-69-2**

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

HAZARD SCREENING DATE: **2019-04-09**

%: **14.0000** GS: **LT-UNK** RC: **PreC** NANO: **No** ROLE: **constituent**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

No hazards found

SUBSTANCE NOTES: Granulated slag is composed of 100 % pre-consumer recycled content.

CALCIUM OXIDE

ID: 1305-78-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-04-09**%: **0.2000 - 1.7000**GS: **LT-P1**RC: **None**NANO: **No**ROLE: **ingredient**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

No hazards found

SUBSTANCE NOTES: See Other Material Notes.

QUARTZ

ID: 14808-60-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-04-09**%: **0.1000 - 0.8000**GS: **LT-1**RC: **None**NANO: **No**ROLE: **ingredient**

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

New Zealand - GHS

6.7A - Known or presumed human carcinogens

CANCER

Japan - GHS

Carcinogenicity - Category 1A

CANCER

Australia - GHS

H350i - May cause cancer by inhalation

SUBSTANCE NOTES: See Other Material Notes.

CHROMIUM (VI) COMPOUNDSID: **Not registered**HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2019-04-09**%: **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	CA EPA - Prop 65	Carcinogen
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Male
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
SKIN SENSITIZE	MAK	Sensitizing Substance Sh - Danger of skin sensitization
GENE MUTATION	MAK	Germ Cell Mutagen 2

SUBSTANCE NOTES: Chromate compounds.

NICKEL COMPOUNDS

ID: **Not registered**

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

HAZARD SCREENING DATE: **2019-04-09**

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

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US NIH - Report on Carcinogens	Known to be a human Carcinogen

SUBSTANCE NOTES: See Residuals and Impurities Notes.

WATER

#: **5.0000**

PRODUCT THRESHOLD: **1000 ppm**

RESIDUALS AND IMPURITIES CONSIDERED: **No**

RESIDUALS AND IMPURITIES NOTES: **No data collected regarding this material.**

OTHER MATERIAL NOTES: **Standard water is used (municipal)**

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

HAZARD SCREENING DATE: **2019-04-09**

#: **100.0000**

GS: **BM-4**

RC: **None**

NANO: **No**

ROLE: **hydration, binding**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

No hazards found

SUBSTANCE NOTES: **See Other Material Notes.**

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 V1.2 (Section 01350/CHPS) - Not Applicable

CERTIFYING PARTY: **Self-declared**

ISSUE DATE: **2019-**

EXPIRY DATE:

CERTIFIER OR LAB: **-**

APPLICABLE FACILITIES: **-**

02-28

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES: **Exterior products**

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

This HPD is only valid for the composition presented in Section 2 Content Inventory.



MANUFACTURER INFORMATION

MANUFACTURER: **Permacon**

ADDRESS: **1081 Rife Road**

**Cambridge (North Dumfries) Ontario N1R 5S3,
Canada**

WEBSITE: <https://permacon.ca/en/pro>

CONTACT NAME: **Customer Service**

TITLE: -

PHONE: **905 875-4215**

EMAIL: customerservicegta@permacon.ca

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/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 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.