

HPD UNIQUE IDENTIFIER: 24230

CLASSIFICATION: 09 28 00 Backing Boards and Underlayments

PRODUCT DESCRIPTION: PermaBASE® Cement Board provides a durable surface designed to withstand prolonged exposure to moisture. Made with Portland cement, aggregate, and fiberglass mesh, it works well as an underlayment for tub and shower surrounds, countertops, flooring, and a variety of other interior and exterior applications. Lightweight and easy to install with EdgeTech® Technology that allows a closer nail or screw application. This HPD covers 1/2" and 5/8" PermaBASE Cement Board.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format	Threshold level	Residuals/Impurities	<i>All Substances Above the Threshold Indicated Are:</i> Characterized <input checked="" type="radio"/> Yes Ex/SC <input type="radio"/> Yes <input type="radio"/> No % weight and role provided for all substances except SC substances characterized according to SC guidance. Screened <input checked="" type="radio"/> Yes Ex/SC <input type="radio"/> Yes <input type="radio"/> No All substances screened using Priority Hazard Lists with results disclosed except SC substances screened according to SC guidance. Identified <input type="radio"/> Yes Ex/SC <input type="radio"/> Yes <input checked="" type="radio"/> 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.
<input checked="" type="radio"/> Nested Materials Method	<input type="radio"/> 100 ppm	Residuals/Impurities	
<input type="radio"/> Basic Method	<input checked="" type="radio"/> 1,000 ppm	Considered in 3 of 2 Materials	
Threshold Disclosed Per	<input type="radio"/> Per GHS SDS	Explanation(s) provided for Residuals/Impurities?	
<input type="radio"/> Material	<input type="radio"/> Other	<input checked="" type="radio"/> Yes <input type="radio"/> No	
<input checked="" type="radio"/> Product			

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
 CEMENTITIOUS CORE [SC:MASONRY SAND Not Screened FLY ASH
 LT-UNK PORTLAND CEMENT LT-P1 | CAN | END HIGH-ALUMINA
 CEMENT LT-UNK POLYSTYRENE LT-UNK CALCIUM HYDROXIDE LT-
 P1 2-NAPHTHALENESULFONIC ACID, POLYMER WITH
 FORMALDEHYDE, SODIUM SALT LT-P1 | PBT] FIBERGLASS SCRIM [
 CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE LT-UNK
 POLYVINYL CHLORIDE LT-P1 | RES DIISONONYL PHTHALATE (DINP-
 2 OR DINP-3, MIXTURE OF ISOMERS AS MANUFACTURED) BM-1 |
 END | MUL | REP | CAN | DEV UNDISCLOSED LT-P1 | MUL]

Number of Greenscreen BM-4/BM3 contents ... 0

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-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 2.2, 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. Substances not "Identified" are those that are proprietary to suppliers, and thus are "Undisclosed" on this HPD.

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: UL/GreenGuard Certified
 VOC emissions: UL/GreenGuard Gold Certified
 Other: UL Evaluation Report (UL ER22158-01)

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1

Third Party Verified?

PREPARER: Elixir Environmental

SCREENING DATE: 2021-03-30

Yes
 No

VERIFIER:
VERIFICATION #:

PUBLISHED DATE: 2021-03-30
EXPIRY DATE: 2024-03-30

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 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard

CEMENTITIOUS CORE

%: 97.1000 - 97.5000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Partially MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Residuals and Impurities were "Considered" for most substances, as outlined in Emerging Best Practices. Residuals or impurities for considered substances 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, based on information provided in supplier disclosures and as predicted by process chemistry (Pharos CML). Although testing has confirmed that heavy metals are not present in Fly Ash (68131-74-8) above 0.01%, we are working with our suppliers to determine if any additional residuals/impurities listed by Pharos CML for Fly Ash are present at or above the declared inventory threshold.

OTHER MATERIAL NOTES: Percent by weight of material and substances reported as ranges to account for formulation variations between products and manufacturing facilities, and to further protect the proprietary nature of this formulation.

SC:MASONRY SAND

ID: SC:GeoMat

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: Not Screened

%: 50.0000 - 60.0000 GS: Not Screened RC: None NANO: No SUBSTANCE ROLE: Filler

HAZARD TYPE AGENCY AND LIST TITLES WARNINGS

Hazard Screening not performed

SUBSTANCE NOTES:

Version: SCGeoMats/2019-06-20

Origin: USA

Typical Composition: Crystallized silicon dioxide

Potential presence of toxic metals: No information provided by suppliers

Presence of Radioactive Elements: No information provided by suppliers Natural substance that is widely used in metal extraction, paints, polymers, cleaning agents, coloring agents, and fillers. Silica is one of several compounds with warnings restricted to respirable forms; exposures to respirable crystalline silica are not expected during the recommended use of this product.

FLY ASH

ID: 68131-74-8

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:28

%: 25.0000 - 30.0000 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Filler

HAZARD TYPE AGENCY AND LIST TITLES WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Type C fly ash. All fly ash added to the product is a Pre-Consumer (Post-Industrial) byproduct of coal generated power plants. The percentage of this ingredient may vary depending on plant and raw material availability. The sum of heavy metals tested (Cadmium, Lead, Chromium, Mercury) was found to be <0.01% in the finished product.

PORTLAND CEMENT

ID: 65997-15-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:29

#: 10.0000 - 15.0000 GS: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor

SUBSTANCE NOTES: Type I/II Portland Cement. The National Institute of Standards and Technology lists the composition of Portland Cement as including: Calcium Oxide (CAS No. 1305-78-8), 64%; Silicon Dioxide (7631-86-9), 20%; Aluminum Oxide (1344-28-1), 5%; Iron III Oxide (1309-37-1), 4%; Sulfur Trioxide (7446-11-9), 3%; Magnesium Oxide (1309-48-4), 1% (Pharos CML). The percentage of this ingredient may vary depending on plant and raw material availability.

HIGH-ALUMINA CEMENT

ID: 65997-16-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:30

#: 1.0000 - 5.0000 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Binder

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

SUBSTANCE NOTES:

POLYSTYRENE

ID: 9003-53-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:30

#: 0.1000 - 1.0000 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Filler

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

SUBSTANCE NOTES:

CALCIUM HYDROXIDE

ID: 1305-62-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:31

#: 0.1000 - 1.0000 GS: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Processing regulator

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

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

2-NAPHTHALENESULFONIC ACID, POLYMER WITH FORMALDEHYDE, SODIUM SALT

ID: 36290-04-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:32

#: 0.1000 - 1.0000 GS: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Processing regulator

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
PBT	EC - CEPA DSL	Persistent, Bioaccumulative and inherently Toxic (PBiTH) to humans

SUBSTANCE NOTES: Reduces process water demand. This ingredient is not used in our Green Cove Springs, FL plant.

FIBERGLASS SCRIM %: 2.5000 - 2.9000

PRODUCT THRESHOLD: 1000 ppm RESIDUALS AND IMPURITIES CONSIDERED: Yes MATERIAL TYPE: Glass

RESIDUALS AND IMPURITIES NOTES: Residuals and Impurities were "Considered", as outlined in Emerging Best Practices. No residuals or impurities are known or expected to be present at or above the Content Inventory Threshold indicated that have a GS score of BM-1, LT-1, LT-P1 or NoGS based on information provided in supplier disclosure and as predicted by process chemistry (Pharos CML).

OTHER MATERIAL NOTES: Percent by weight of material and substances reported as ranges to account for formulation variations between products and manufacturing facilities, and to further protect the proprietary nature of this formulation.

CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE ID: 65997-17-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:27

%: 35.0000 - 40.0000 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Structure component

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).

POLYVINYL CHLORIDE ID: 9002-86-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:28

%: 35.0000 - 40.0000 GS: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Polymer species

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RES	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced

SUBSTANCE NOTES:

DIISONONYL PHTHALATE (DINP-2 OR DINP-3, MIXTURE OF ISOMERS AS MANUFACTURED) ID: 28553-12-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-03-30 11:09:29

%: 10.0000 - 15.0000 GS: BM-1 RC: None NANO: No SUBSTANCE ROLE: Plasticizer

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MUL	US EPA - PPT Chemical Action Plans	EPA Chemical of Concern - Action Plan published
MUL	US EPA - PPT Chemical Action Plans	TSCA Work Plan chemical - Action Plan in development
END	ChemSec - SIN List	Endocrine Disruption
REP	US EPA - PPT Chemical Action Plans	Reproductive effects
CAN	CA EPA - Prop 65	Carcinogen
DEV	US NIH - Reproductive & Developmental Monographs	Some Evidence of Adverse Effects - Developmental Toxicity
END	EU - Priority Endocrine Disruptors	Category 2 - In vitro evidence of biological activity related to Endocrine Disruption

SUBSTANCE NOTES: GreenScreen Benchmark® assessment score of BM-1 was provided by the HPD Builder Tool.

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-03-30 11:09:30**
 %: **5.0000 - 10.0000** GS: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Processing regulator**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: Supplier has shared substance identity under the terms of a non-disclosure agreement with third-party preparer; substance to remain proprietary to supplier. Substance has been screened against HPD Priority Lists using the HPD Builder with results disclosed. Identified on the US EPA Safer Chemical Ingredient List (Green Circle - Verified Low Concern). Substance is not included on the Living Building Challenge (LBC) Red List Chemical Guide Version 4.0.

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	UL/GreenGuard Certified		
CERTIFYING PARTY: Third Party APPLICABLE FACILITIES: All CERTIFICATE URL: http://certificates.ulenvironment.com/default.aspx?id=9433&t=gg	ISSUE DATE: 2009-12-31	EXPIRY DATE: 2021-12-28	CERTIFIER OR LAB: UL Environment
CERTIFICATION AND COMPLIANCE NOTES: Certificate Number: 9433-410. Restrictions: Certified as an assembly only. UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings. Building materials are determined compliant in accordance with an Office environment with an air change of 0.68 hr-1 and a loading of 10.60 m2. Products tested in accordance with UL 2821 test method to show compliance to emission limits in UL 2818, Section 7.1.			

VOC EMISSIONS	UL/GreenGuard Gold Certified		
CERTIFYING PARTY: Third Party APPLICABLE FACILITIES: All CERTIFICATE URL: http://certificates.ulenvironment.com/default.aspx?id=9433&t=cs	ISSUE DATE: 2009-12-31	EXPIRY DATE: 2021-12-28	CERTIFIER OR LAB: UL Environment
CERTIFICATION AND COMPLIANCE NOTES: Certificate Number: 9433-420. Restrictions: Certified as an assembly only. UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings. Building products and interior finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V1.2-2017 using an Office Environment. Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818. Section 7.1 and 7.2.			

OTHER	UL Evaluation Report (UL ER22158-01)		
CERTIFYING PARTY: Third Party APPLICABLE FACILITIES: Clinton, IN; Cleburne, TX; Green Cove Springs, FL; Bromont, Canada. CERTIFICATE URL: http://tinyurl.com/ze7vjmsx	ISSUE DATE: 2017-03-31	EXPIRY DATE:	CERTIFIER OR LAB: UL
CERTIFICATION AND COMPLIANCE NOTES: SUBJECT: PERMABASE CEMENTITIOUS BACKER UNITS. Revised: December 6, 2019. SCOPE OF EVALUATION: 2012, 2015, 2018 International Building Code ® (IBC); 2012, 2015, 2018 International Residential Code ® (IRC); 2012, 2015, 2018 International Mechanical Code® (IMC). Properties evaluated: Surface Burning Characteristics (ANSI/UL723, ASTM E84); Fire-resistance-rated construction (ANSI/UL263, ASTM E119); Physical properties; Structural; Durability; Noncombustible construction.			

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.

FASTENERS	HPD URL: No HPD available
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: As referenced in UL Evaluation Report (UL ER22158-01).	
STEEL FRAMING	HPD URL: No HPD available
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: As referenced in UL Evaluation Report (UL ER22158-01).	
ALKALI-RESISTANT FIBERGLASS MESH TAPE	HPD URL: No HPD available

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Used to treat joints and/or reinforce seams, edges, corners and all openings around fixtures, as per UL Evaluation Report (UL ER22158-01).

MORTAR OR ADHESIVE

HPD URL: **No HPD available**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Used to treat joints and/or reinforce seams, edges, corners and all openings around fixtures, as per UL Evaluation Report (UL ER22158-01).

Section 5: General Notes

MANUFACTURER INFORMATION

MANUFACTURER: PermaBASE Building Products, LLC provided by
National Gypsum Company
ADDRESS: 2001 Rexford Road
Charlotte NC 28211, USA
WEBSITE: www.permabase.com

CONTACT NAME: Amy Hockett
TITLE: Manager - Architectural Services & Sustainability
PHONE: 704-365-7931
EMAIL: AmyH@NationalGypsum.com

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-UNK List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
BM-2 Benchmark 2 (use but search for safer substitutes)	NoGS No GreenScreen.
BM-1 Benchmark 1 (avoid - chemical of high concern)	
BM-U Benchmark Unspecified (due to insufficient data)	
LT-P1 List Translator Possible 1 (Possible Benchmark-1)	

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

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.