

HPD UNIQUE IDENTIFIER: 983932928
CLASSIFICATION: 09 30 00 Tiling
PRODUCT DESCRIPTION: High-fired terracotta tile made from a red clay body containing kaolin, illite/mica, quartz, and iron oxides. Handmade and extruded. No glazes or coatings are used.

Section 1: SummaryNested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format	Threshold Level	Residuals/Impurities Evaluation	For all contents above the threshold, the manufacturer has:
☒ Nested Materials Method	☒ 100 ppm	Completed in 4 of 4 Materials	Characterized ☒ Yes ☐ No
☐ Basic Method	☐ 1,000 ppm	Explanation(s) provided for Residuals/Impurities?	<i>Provided weight and role.</i>
Threshold Disclosed Per	☐ Per GHS SDS	☒ Yes ☐ No	Screened ☒ Yes ☐ No
☐ Material	☐ Other		<i>Provided screening results using HPDC-approved methods.</i>
☒ Product			Identified ☒ Yes ☐ No
			<i>Provided name and CAS RN or other identifier.</i>

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.

NESTED MATERIAL | MATERIAL OR SUBSTANCE | RESIDUAL OR IMPURITY

GREENSCREEN SCORE | HAZARD TYPE

IMCO400 CLAY [KAOLINITE (AL2(OH)4(SI2O5)) NoGS MICA LT-UNK]
MAM SMECTITE NoGS QUARTZ BM-1] CAN | MAM | GEN RUTILE
TITANIUM DIOXIDE LT-1] CAN] GROG [SILICON DIOXIDE BM-1]
CAN | MAM ALUMINUM OXIDE BM-2] MAM FERRIC OXIDE BM-1]
CAN | MAM TITANIUM DIOXIDE BM-1] CAN | END | MAM POTASSIUM
OXIDE BM-2 CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8) BM-2]
SKI | MAM | EYE MAGNESIUM OXIDE BM-3dg] CAN | MAM SODIUM
OXIDE BM-2] CLARA GLAZES (ALL COLORS) [FRITS, CHEMICALS
LT-P1] MUL ZIRCON (ZR(SIO4)) BM-2 UVCB CONDENSATION
PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM
CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18
TALLOW ALKYLAMINE LT-P1] CAN | SKI | AQU C.I. PIGMENT BLACK
27 LT-1] CAN | RES | GEN UVCB CONDENSATION PRODUCT OF:
TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA
AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE LT-
P1] CAN | SKI | AQU UVCB CONDENSATION PRODUCT OF:
TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA
AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE LT-
P1] CAN | SKI | AQU SILICIC ACID, ZIRCONIUM SALT, CADMIUM
PIGMENT-ENCAPSULATED LT-1] CAN | PBT | AQU UVCB
CONDENSATION PRODUCT OF: TETRAKIS-
HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND
DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE LT-P1]
CAN | SKI | AQU SILICIC ACID, ZIRCONIUM SALT, CADMIUM
PIGMENT-ENCAPSULATED LT-1] CAN | PBT | AQU COBALT ZINC
SILICATE BLUE PHENACITE LT-1] CAN | RES | GEN | REP | MAM
COBALT NICKEL GRAY PERICLASE LT-1] MUL | CAN | MAM
OLIVINE, COBALT SILICATE BLUE LT-UNK UVCB CONDENSATION
PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM
CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18
TALLOW ALKYLAMINE LT-P1] CAN | SKI | AQU QUARTZ BM-1 *] CAN

Number of Greenscreen BM-4/BM3 contents ... 1
Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ...
LT-P1, BM-1, LT-1
Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Inventory and screening were completed for all known substances ≥100 ppm using supplier SDSs, formulation records, and HPD Builder hazard screening. Bound mineral powders (e.g., quartz, ferric oxide) were evaluated using Form-Specific Hazard Policies. Proprietary materials below threshold are confirmed to contain no known hazards. This methodology aligns with the broader ARTO product collection for consistency.

*Form-Specific Hazard: This substance's GreenScreen Benchmark or List Translator score and the applicable hazards are related to particulate inhalation, which is expected to occur only during manufacture, installation, maintenance, or demolition, due to activities such as sawing, sanding, grinding, or intensive cleaning. For this reason, this score is intentionally omitted from the "Contents highest concern" line above. See HPDC's Special Conditions policy for more information.

PFAS DETAILS:

This product does **not** contain intentionally added PFAS and materials and substances from suppliers are verified to **not** contain PFAS.

Attestation:

Julie Grajeda

2025-09-04

| MAM | GEN **ATTAPULGITE** **LT-1** | CAN | MAM | EYE
CARBOXYMETHYLCELLULOSE SODIUM **LT-UNK** | AQU] **C-RED** [
KAOLINITE (AL2(OH)4(SI2O5)) **NoGS** **QUARTZ** **BM-1** | CAN | MAM |
GEN **HAEMATITE** **LT-UNK** **SMECTITE** **NoGS** **MICA** **LT-1** | CAN]

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: Inherently non-emitting source per LEED
VOC emissions: Inherently non-emitting source per LEED

CONSISTENCY WITH OTHER PROGRAMS
Pre-checked for LEED v4 Option 1.
Pre-checked for LEED v4.1 Option 1.

Third Party Verified?
☐ Yes
☒ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2025-09-04
PUBLISHED DATE: 2025-09-04
EXPIRY DATE: 2028-09-04

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 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

IMCO400 CLAY		%: 65.0000 - 66.0000	
PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Geologically Derived Material	
RESIDUALS AND IMPURITIES NOTES: Naturally occurring minerals in clays; screened by supplier SDSs.			
OTHER MATERIAL NOTES: Base clay blend for light-colored ceramic body. Enhances formability and firing strength.			

KAOLINITE (AL2(OH)4(SI2O5))				ID: 1318-74-7
HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:40	
%: 50.0000 - 64.0000	GreenScreen: NoGS	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE		WARNINGS	
None found			No warnings found on HPD Priority Hazard Lists	
ADDITIONAL LISTINGS	LIST NAME AND SOURCE		NOTIFICATION	
None found			No listings found on Additional Hazard Lists	
SUBSTANCE NOTES: Clay mineral that contributes to plasticity and whiteness.				

MICA			ID: 12001-26-2	
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:41		
%: 14.0000 - 16.0000	GreenScreen: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		
SUBSTANCE NOTES: Aluminosilicate that provides workability.				

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:41	
?: 1.0000 - 15.0000	GreenScreen: NoGS	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		
SUBSTANCE NOTES: Clay with swelling properties aiding water retention.				

QUARTZ

ID: 14808-60-7

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:42	
?: 14.0000 - 15.0000	GreenScreen: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Filler
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen		
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route		
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)		
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man		
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources		
CAN	IARC	Group 1 - Agent is Carcinogenic to humans		
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen		
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]		
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]		
CAN	GHS - New Zealand	Carcinogenicity category 1		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]		
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]		
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1		

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Naturally occurring crystalline silica. Screened for respirable fraction.		

RUTILE TITANIUM DIOXIDE

ID: 1317-80-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:42		
%: 0.0100 - 2.0000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment
HAZARD TYPE	LIST NAME AND SOURCE		WARNINGS	
CAN	US CDC - Occupational Carcinogens		Occupational Carcinogen	
CAN	IARC		Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources	
CAN	MAK		Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value	
ADDITIONAL LISTINGS	LIST NAME AND SOURCE		NOTIFICATION	
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)		C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022	
			Cosmetics & Personal Care Products	
SUBSTANCE NOTES: Natural titanium dioxide used as flux and pigment.				

GROG		%: 32.0000 - 33.0000	
PRODUCT THRESHOLD: 100 ppm		RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Other: Processed Material
RESIDUALS AND IMPURITIES NOTES: Screened at 100 ppm. Contains mineral oxides derived from original clay body; no new chemicals are added after firing.			
OTHER MATERIAL NOTES: Post-industrial recycled ceramic (roof tile) ground into granular form. Adds strength and reduces shrinkage.			

SILICON DIOXIDE

ID: 7631-86-9

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:42		
%: 55.0000 - 70.0000	GreenScreen: BM-1	RC: PreC	NANO: No	SUBSTANCE ROLE: Filler

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials
SUBSTANCE NOTES: Main structural component; present as quartz and mullite.		

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:43	
%: 15.0000 - 30.0000	GreenScreen: BM-2	RC: PreC	NANO: No	SUBSTANCE ROLE: Filler
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Children's Toy Products		

SUBSTANCE NOTES: From kaolinitic minerals; retained after firing.

FERRIC OXIDE

ID: 1309-37-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2025-09-04 9:59:43

%: 3.0000 - 8.0000	GreenScreen: BM-1	RC: PreC	NANO: No	SUBSTANCE ROLE: Pigment
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification		
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]		
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

SUBSTANCE NOTES: Responsible for buff to red coloration; remains stable post-firing.

TITANIUM DIOXIDE

ID: 13463-67-7

HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2025-09-04 9:59:44

%: 1.0000 - 3.0000	GreenScreen: BM-1	RC: PreC	NANO: No	SUBSTANCE ROLE: Filler
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HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
CAN	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Formulated Consumer Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE Safer Chemicals Ingredients list (SCIL) Colorants - Green Circle (Verified Low Concern)
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products

SUBSTANCE NOTES: Occurs naturally; provides opacity.

%: 1.0000 - 2.0000

GreenScreen: BM-2

RC: PreC

NANO: No

SUBSTANCE ROLE: Tensile strength additive

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Natural fluxing agent in fired clays.		

CALCIUM OXIDE (PRIMARY CASRN IS 1305-78-8)

ID: 60873-85-0

HAZARD DATA SOURCE: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2025-09-04 9:59:43

%: 0.5000 - 2.0000

GreenScreen: BM-2

RC: PreC

NANO: No

SUBSTANCE ROLE: Tensile strength additive

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List
		Antimicrobials

SUBSTANCE NOTES: Mineral flux; remains stable after firing.

MAGNESIUM OXIDE

ID: 1309-48-4

HAZARD DATA SOURCE: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2025-09-04 9:59:43

%: 0.5000 - 2.0000

GreenScreen: BM-3dg

RC: PreC

NANO: No

SUBSTANCE ROLE: Tensile strength additive

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Trace component; provides thermal stability.		

SODIUM OXIDE

ID: 1313-59-3

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:44		
%: 0.5000 - 1.5000	GreenScreen: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Tensile strength additive
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		
SUBSTANCE NOTES: Trace alkali from feldspathic components.				

CLARA GLAZES (ALL COLORS)		%: 2.0000 - 6.0000
PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Ceramic
RESIDUALS AND IMPURITIES NOTES: Residuals and impurities evaluated to 100 ppm. Proprietary frits/pigments screened where supplier data is available; screening requested for remaining proprietary items.		
OTHER MATERIAL NOTES: Glaze applied at 2–6% of fired product weight. Substances listed as ranges reflect glaze recipe. 0–Max% used for pigments to cover all glaze colors. Proprietary frits/pigments disclosed as proprietary where CAS not available; hazard screening requested from suppliers.		

FRITS, CHEMICALS

ID: 65997-18-4

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:45		
%: 66.7000 - 79.2000	GreenScreen: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters		

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Electronics (RoHS)
SUBSTANCE NOTES: UVCB frit; multiple oxides, screened to 100 ppm. Hazards apply to dust, not bound glaze.		

ZIRCON (ZR(SIO4))ID: 14940-68-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:45	
?: 0.0000 - 15.2000	GreenScreen: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Opacifier
HAZARD TYPE	LIST NAME AND SOURCE		WARNINGS	
None found			No warnings found on HPD Priority Hazard Lists	
ADDITIONAL LISTINGS	LIST NAME AND SOURCE		NOTIFICATION	
None found			No listings found on Additional Hazard Lists	
SUBSTANCE NOTES: Used as opacifier; inert in fired tile.				

UVCB CONDENSATION PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINEID: 166242-53-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:44		
%: 0.0000 - 9.1000	GreenScreen: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products
SUBSTANCE NOTES: Gray stain composed of zirconium silicate (CAS 14940-68-2) and Co/Ni spinel (CAS 68186-89-0). Entered as UVCB; SDS on file.		

C.I. PIGMENT BLACK 27				ID: 68186-97-0
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:45		
%: 0.0000 - 7.6000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
RES	MAK	Sensitizing Substance Sah - Danger of airway & skin sensitization
GEN	MAK	Germ Cell Mutagen 3a
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Children's Toy Products
SUBSTANCE NOTES: Substance is a CICP black spinel pigment.		

UVCB CONDENSATION PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE

ID: 166242-53-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:47	
%, 0.0000 - 7.2000	GreenScreen: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products
SUBSTANCE NOTES: C1CP ceramic pigment; SDS on file. Multi-oxide spinel blend, proprietary composition. Disclosed as UVCB per HPD Open Standard.		

UVCB CONDENSATION PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE

ID: 166242-53-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2025-09-04 9:59:46			
%: 0.0000 - 7.2000	GreenScreen: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022
		Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022
		Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025
		Cosmetics and Personal Care Products
SUBSTANCE NOTES: C1CP stain; zircon–vanadium yellow / spinel mixture. Contains oxides registered under CAS 68187-01-9, 68186-88-9, and 68187-49-5. Proprietary ratios not disclosed.		

SILICIC ACID, ZIRCONIUM SALT, CADMIUM PIGMENT-ENCAPSULATED

ID: 102184-95-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:45	
%: 0.0000 - 7.2000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
PBT	OSPAR - Priority PBTs & EDs & equivalent concern	PBT - Chemical for Priority Action
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	CA EPA - Prop 65	Carcinogen
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	GHS - Korea	H350 - May cause cancer [Carcinogenicity - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - Korea	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	GHS - Korea	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Perkins+Will (P+W)	P&W - Precautionary List Precautionary list of substances recommended for avoidance
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Electronics (RoHS)
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Children's Toy Products
SUBSTANCE NOTES: Cadmium-encapsulated zircon pigment.		

UVCB CONDENSATION PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE

ID: **166242-53-1**

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:48		
%: 0.0000 - 3.7000	GreenScreen: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products
SUBSTANCE NOTES: CIGP spinel ceramic pigment; SDS on file. Multi-oxide composition, disclosed as UVCB.		

SILICIC ACID, ZIRCONIUM SALT, CADMIUM PIGMENT-ENCAPSULATED				ID: 102184-95-2
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:46		
%: 0.0000 - 3.7000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
PBT	OSPAR - Priority PBTs & EDs & equivalent concern	PBT - Chemical for Priority Action
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	CA EPA - Prop 65	Carcinogen
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	GHS - Korea	H350 - May cause cancer [Carcinogenicity - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - Korea	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	GHS - Korea	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Perkins+Will (P+W)	P&W - Precautionary List Precautionary list of substances recommended for avoidance
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Electronics (RoHS)
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Children's Toy Products
SUBSTANCE NOTES: Cadmium-encapsulated zircon pigment.		

COBALT ZINC SILICATE BLUE PHENACITE				ID: 68412-74-8
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:47		
%: 0.0000 - 3.7000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
RES	MAK	Sensitizing Substance Sah - Danger of airway & skin sensitization
GEN	MAK	Germ Cell Mutagen 3a
REP	GHS - Australia	H360F - May damage fertility [Reproductive toxicity - Category 1A or 1B]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - Australia	H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 1 or 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Children's Toy Products
SUBSTANCE NOTES: Substance is a Cobalt zinc silicate pigment.		

COBALT NICKEL GRAY PERICLASE

ID: 68186-89-0

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:47		
?: 0.0000 - 3.7000	GreenScreen: LT-1	RC: None	NANO: No	SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CAN	EU - Annex VI CMRs	Carcinogen Category 1A - Known human Carcinogen based on human evidence
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
CAN	EU - REACH Annex XVII CMRs	Carcinogens: Category 1A
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Formulated Consumer Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 All Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products
SUBSTANCE NOTES: Substance is a Cobalt–nickel gray periclase.		

OLIVINE, COBALT SILICATE BLUE

ID: 68187-40-6

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:49	
%: 0.0000 - 1.8000	GreenScreen: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Pigment
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

SUBSTANCE NOTES: Substance is a Cobalt silicate blue pigment.

UVCB CONDENSATION PRODUCT OF: TETRAKIS-HYDROXYMETHYLPHOSPHONIUM CHLORIDE, UREA AND DISTILLED HYDROGENATED C16-18 TALLOW ALKYLAMINE

ID: 166242-53-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2025-09-04 9:59:46

%: 0.0000 - 1.8000 GreenScreen: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Pigment

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025 Cosmetics and Personal Care Products

SUBSTANCE NOTES: C1CP spinel ceramic pigment; SDS on file. Multi-oxide composition, disclosed as UVCB.

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-09-04 9:59:47**

%: **0.0000 - 1.0000**

GreenScreen: **BM-1**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen**
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route**
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)**
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man**
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources**
CAN	IARC	Group 1 - Agent is Carcinogenic to humans**
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen**
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]**
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]**
CAN	GHS - New Zealand	Carcinogenicity category 1**
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]**
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]**
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]**
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1**
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Trace impurity in kaolin/pigments; hazard only as respirable dust.

Quartz is present as a trace impurity in kaolin, pigments, and recycled materials. Hazard applies only to respirable dust during manufacture or cutting/demolition. In the fired tile, quartz is bound in a non-powder ceramic matrix.

**Form-Specific Hazard: This substance's GreenScreen Benchmark or List Translator score and the applicable hazards are related to particulate inhalation, which is expected to occur only during manufacture, installation, maintenance, or demolition, due to activities such as sawing, sanding, grinding, or intensive cleaning. See HPDC's Special Conditions policy for more information. Manufacturer's Safety Data Sheet (SDS), if applicable, may offer occupational health and safety information.

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2025-09-04 9:59:48**

%: **0.2000 - 0.2000**

GreenScreen: **LT-1**

RC: **None**

NANO: **No**

SUBSTANCE ROLE: **Binder**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CAN	GHS - New Zealand	Carcinogenicity category 2
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
EYE	GHS - Japan	H319 - Causes serious eye irritation [Serious eye damage / eye irritation - Category 2A]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Suspension agent in glaze slurries; burns off in firing.		

CARBOXYMETHYLCELLULOSE SODIUMID: 9004-32-4

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:49		
%: 0.2000 - 0.2000	GreenScreen: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE		WARNINGS	
AQU	GHS - New Zealand		Hazardous to the aquatic environment - chronic category 3	
ADDITIONAL LISTINGS	LIST NAME AND SOURCE		NOTIFICATION	
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE Safer Chemicals Ingredients list (SCIL)		
		Chelating Agents - Green Circle (Verified Low Concern)		
SUBSTANCE NOTES: Organic binder; burns off in firing.				

C-RED%: 1.3100

PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Geologically Derived Material
RESIDUALS AND IMPURITIES NOTES: Clays are mineral-based; reviewed for trace elements.		
OTHER MATERIAL NOTES: Minor addition of red clay for warm tone and body consistency.		

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:49	
%: 70.0000	GreenScreen: NoGS	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	LIST NAME AND SOURCE		WARNINGS	
None found			No warnings found on HPD Priority Hazard Lists	
ADDITIONAL LISTINGS	LIST NAME AND SOURCE		NOTIFICATION	
None found			No listings found on Additional Hazard Lists	
SUBSTANCE NOTES: Clay mineral that contributes to plasticity and whiteness.				

HAZARD DATA SOURCE: Pharos Chemical and Materials Library			HAZARD SCREENING DATE: 2025-09-04 9:59:47	
%: 18.0000	GreenScreen: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Filler

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CAN	IARC	Group 1 - Agent is Carcinogenic to humans
CAN	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
CAN	GHS - New Zealand	Carcinogenicity category 1
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Naturally occurring crystalline silica. Screened for respirable fraction.		

HAEMATITE

ID: 1317-60-8

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2025-09-04 9:59:48		
%: 13.0000	GreenScreen: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Pigment
HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

SUBSTANCE NOTES: Natural red iron oxide, contributes to base tone.

SMECTITE

ID: 12199-37-0

HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2025-09-04 9:59:48

%: 0.0100 - 5.0000 GreenScreen: NoGS RC: None NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Clay mineral with high plasticity; supports drying behavior.

MICA

ID: 1318-94-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2025-09-04 9:59:49

%: 1.0000 - 5.0000 GreenScreen: LT-1 RC: None NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CAN	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CAN	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Aluminosilicate that provides workability.

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	Inherently non-emitting source per LEED	
CERTIFYING PARTY: Self-declared APPLICABLE FACILITIES: All manufacturing facilities producing this product (Gardena, CA) CERTIFICATE URL:	ISSUE DATE: 2025-06-19 00:00:00 EXPIRY DATE:	CERTIFIER OR LAB: None
CERTIFICATION AND COMPLIANCE NOTES: High-fired ceramic tile is non-emitting. No testing required.		

VOC EMISSIONS	Inherently non-emitting source per LEED	
CERTIFYING PARTY: Self-declared APPLICABLE FACILITIES: All manufacturing facilities producing this product (Gardena, CA) CERTIFICATE URL:	ISSUE DATE: 2025-09-04 00:00:00 EXPIRY DATE:	CERTIFIER OR LAB: None
CERTIFICATION AND COMPLIANCE NOTES: High-fired ceramic tile is non-emitting. No testing required.		

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.

GROUT MANUFACTURER (OR GENERIC): Laticrete
HPD URL: https://cdnmdm.laticrete.com/ProductAssets/Objects%20Assets/New%20PERMACOLOR%20HPD%20v2.3_3.pdf ACCESSORY TYPE: Installation Accessory CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: Accessories are site-applied and not included in this product formulation. VOC content and emissions must be assessed separately.

ADHESIVE (THINSET) MANUFACTURER (OR GENERIC): Laticrete
HPD URL: https://cdnmdm.laticrete.com/ProductAssets/Product%20Documents/253-grey-hpd-la-en.pdf ACCESSORY TYPE: Adhesive CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: Accessories are site-applied and not included in this product formulation. VOC content and emissions must be assessed separately.

Section 5: General Notes

This HPD represents the unglazed red-bodied version of Arto's ceramic tile line. Grog is recycled from roofing tile scrap and included as a performance filler.

MANUFACTURER INFORMATION

MANUFACTURER: **arto**
ADDRESS: **15209 S Broadway**
Gardena, California West Rancho Dominguez
COUNTRY: **United States**
LATITUDE: **-118.2794000**
LONGITUDE: **33.8935000**

WEBSITE: **www.arto.com**
CONTACT NAME: **Julie Grajeda**
TITLE: **Head of Product and Sustainability**
PHONE: **310-768-8500**
EMAIL: **julie@arto.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-P1 List Translator Possible 1 (Possible Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-2 Benchmark 2 (use but search for safer substitutes)	LT-UNK List Translator Benchmark Unknown
BM-1 Benchmark 1 (avoid - chemical of high concern)	NoGS No GreenScreen.
BM-U Benchmark Unspecified (due to insufficient data)	

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

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.

