



Mesa Light Filtering Fabric by Texstyle by Rollease Acmeda

Health Product Declaration v2.3

created via: HPDC Online Builder

HPD UNIQUE IDENTIFIER: 29734

CLASSIFICATION: 12 20 00 Window Treatments

PRODUCT DESCRIPTION: Mesa light filtering fabric is ideal for a variety of applications that require total light blockage and privacy. Made from 100% polyester with an acrylic foam backing, Mesa is PVC-free, offering a high-quality, soft appearance that will add beauty to a room while reducing glare and solar heat gain. Mesa can be used for an array of window coverings including Roller Shades, Roman Shades, or Panel Track systems.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format	Threshold Level	Residuals/Impurities Evaluation	For all contents above the threshold, the manufacturer has:
<input checked="" type="radio"/> Nested Materials Method	<input checked="" type="radio"/> 100 ppm	Completed in 7 of 7 Materials	Characterized <input checked="" type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Basic Method	<input type="radio"/> 1,000 ppm	Explanation(s) provided for Residuals/Impurities?	<i>Provided weight and role.</i>
Threshold Disclosed Per	<input type="radio"/> Per GHS SDS	<input type="radio"/> Yes <input type="radio"/> No	Screened <input checked="" type="radio"/> Yes <input type="radio"/> No
<input type="radio"/> Material	<input type="radio"/> Other		<i>Provided screening results using HPDC-approved methods.</i>
<input checked="" type="radio"/> Product			Identified <input checked="" type="radio"/> Yes <input type="radio"/> 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**

PET [**POLYETHYLENE TEREPHTHALATE** **LT-P1**] **ANTIMONY TRIOXIDE** **BM-1** | **MUL** | **CAN** | **SKI** | **EYE** | **MAM** | **AQU** **ZINC OXIDE** **BM-1** | **END** | **MUL** | **AQU** | **MAM** | **REP** **NITROGEN** **NoGS** **MANGANESE OXIDE** **LT-P1** | **REP** | **MAM** | **ACRYLIC EMULSION** [**POLYACRYLIC ACID** **LT-UNK**] **CAN** | **MAM** **WATER** **BM-4** | **DBDPE** [**DBDPE** **BM-1**] **PBT** **BROMINATED DIPHENYL ETHERS** **LT-P1** | **PBT** **ALUMINUM BROMIDE** **LT-P1** | **SKI** | **EYE** | **TITANIUM DIOXIDE** [**RUTILE (TiO2)** **LT-1**] **CAN** | **MAM** | **CLAY** [**POTASSIUM OXIDE** **BM-2**] **SILICON DIOXIDE** **BM-1** | **CAN** | **MAM** **ALUMINUM OXIDE** **BM-2** | **MAM** **TITANIUM DIOXIDE** **LT-1** | **CAN** | **END** | **MAM** **QUARTZ** **BM-1** | **CAN** | **MAM** | **GEN** **FERROUS OXIDE** **LT-UNK** | **CAN** | **PHOSPHORUS PENTOXIDE** **LT-P1** | **SKI** | **EYE** | **MAM** **CALCIUM OXIDE (POST-CONSUMER)** **BM-2** | **SKI** | **MAM** | **EYE** **MAGNESIUM OXIDE** **BM-3dg** | **CAN** | **ANATASE (TiO2)** **LT-1** | **CAN** | **MAM** | **ANTIMONY OXIDE** [**ANTIMONY OXIDE (ANTIMONY TRIOXIDE)** **BM-1**] **MUL** | **CAN** | **SKI** | **EYE** | **MAM** | **AQU** **NICKEL (METALLIC)** **LT-1** | **CAN** | **RES** | **MUL** | **MAM** | **SKI** | **AQU** **LEAD** **BM-1** | **END** | **PBT** | **REP** | **MUL** | **CAN** | **DEV** | **GEN** | **MAM** | **AQU** | **SKI** **IRON** **LT-P1** | **END** | **COPPER** **LT-P1** | **GEN** | **EYE** | **MAM** | **SKI** | **AQU** **ARSENIC, INORGANIC** **LT-1** | **CAN** | **END** | **PBT** | **MUL** | **DEV** | **MAM** | **GEN** | **AQU** | **REP** | **PIGMENT** [**WATER** **BM-4**] **PROPYLENE GLYCOL** **BM-2** | **END** | **1-HEXADECYL PYRIDINIUM CHLORIDE** **LT-UNK** | **SKI** | **EYE** | **MAM** | **AQU** **DIPROPYLENE GLYCOL METHYL ETHER** **LT-UNK** **IRON** **LT-P1** | **END** |]

Number of Greenscreen BM-4/BM3 contents ... 3

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... LT-P1, BM-1, LT-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Residuals and impurities were screened using the toxnet database. This database is a general database and lists possible residuals and impurities for chemicals and substances as reported in peer-reviewed studies or other credible documentation. Just because a chemical could have the impurity listed in the database does not mean that this material contains that impurity. Actual impurities are a product of the sourced product and its suppliers. Residuals and impurities listed in the HPD are for information purposes only, and are not 100% guaranteed to be present in the fabric.

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) - Classroom & Office scenario



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: 2022-08-26

PUBLISHED DATE: 2022-08-26

EXPIRY DATE: 2025-08-26



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

PET

%: 45.0000 - 55.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes

MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES:

Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES. None Noted

OTHER MATERIAL NOTES:

Pharos database lists the following as known or request residuals:

Impurity 1: Antimony trioxide :

"The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)."

(Lithner 2011)

"Residual molecular antimony (Sb) catalyst materials can migrate into food or water and be a potential contaminant from PET packaging materials. Sb was established as a catalyst of choice because it has some favorable properties, e.g. it gives bright, shiny polymers. There are two other main catalysts for PET: germanium oxide and titanium compounds (Thiele 2001)."

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3613973/>

"Antimony trioxide is the preferred polycondensation catalyst for the production of PET."

"The Sb concentration of commercialized PET resin ranges between 190 and 300 µg g-1."

http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-50532014000400009

Impurity 2- Manganese oxide:

"Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)."

(Lithner 2011)

Impurity 3- Nitrogen:

In the DMT process, "Vapor from the top of the methanol column is sent to a cold water (or refrigerated) condenser, where the condensate returns to the methanol column, and noncondensables are purged with nitrogen before being emitted to the atmosphere."

<http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf>

Impurity 4- Zinc oxide:

"The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)."

(Lithner 2011)

POLYETHYLENE TEREPHTHALATE

ID: 25038-59-9

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:18		
%: 45.0000 - 55.0000	GreenScreen: LT-P1	RC: UNK	NANO: No	SUBSTANCE ROLE: Polymer species
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
	EC - CEPA DSL		Persistent	
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
None found			No listings found on Additional Hazard Lists	



SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section **INVENTORY AND SCREENING NOTES.**

Pharos database lists the following as known or request residuals:

Impurity 1: Antimony trioxide :

"The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

"Residual molecular antimony (Sb) catalyst materials can migrate into food or water and be a potential contaminant from PET packaging materials. Sb was established as a catalyst of choice because it has some favorable properties, e.g. it gives bright, shiny polymers. There are two other main catalysts for PET: germanium oxide and titanium compounds (Thiele 2001)."

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3613973/>

"Antimony trioxide is the preferred polycondensation catalyst for the production of PET."

"The Sb concentration of commercialized PET resin ranges between 190 and 300 µg g-1." http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-50532014000400009

Impurity 2- Manganese oxide:

"Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

Impurity 3- Nitrogen:

In the DMT process, "Vapor from the top of the methanol column is sent to a cold water (or refrigerated) condenser, where the condensate returns to the methanol column, and noncondensables are purged with nitrogen before being emitted to the atmosphere."

<http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf>

Impurity 4- Zinc oxide:

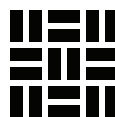
"The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

ANTIMONY TRIOXIDE

ID: 1309-64-4

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-08-26 11:34:28**

%: **Impurity/Residual** GreenScreen: **BM-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CAN	CA EPA - Prop 65	Carcinogen
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CAN	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1B]
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	GHS - New Zealand	Skin irritation category 2
EYE	GHS - New Zealand	Eye irritation category 2
	EC - CEPA DSL	Persistent
CAN	GHS - New Zealand	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]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
MAM	GHS - Japan	H371 - May cause damage to organs [Specific target organs/systemic toxicity following single exposure - Category 2]
SKI	GHS - Korea	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1]
AQU	GHS - Korea	H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
CAN	GHS - Korea	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]



ADDITIONAL LISTINGS	AGENCY	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 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 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products

SUBSTANCE NOTES: Pharos database lists the following as known or request residuals:

Impurity 1: Antimony trioxide :

"The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

"Residual molecular antimony (Sb) catalyst materials can migrate into food or water and be a potential contaminant from PET packaging materials. Sb was established as a catalyst of choice because it has some favorable properties, e.g. it gives bright, shiny polymers. There are two other main catalysts for PET: germanium oxide and titanium compounds (Thiele 2001)."

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3613973/>

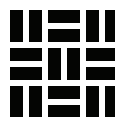
"Antimony trioxide is the preferred polycondensation catalyst for the production of PET."

"The Sb concentration of commercialized PET resin ranges between 190 and 300 µg g-1." http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-50532014000400009

ZINC OXIDE

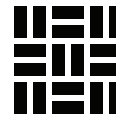
ID: 1314-13-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:30	
%: Impurity/Residual	GreenScreen: BM-1	RC: UNK	NANO: Unknown SUBSTANCE ROLE: Impurity/Residual



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
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]
	EC - CEPA DSL	Persistent
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - Japan	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
AQU	GHS - Japan	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - Australia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 1
REP	GHS - Japan	H361 - Suspected of damaging fertility or the unborn child [Toxic to reproduction - Category 2]
AQU	GHS - Malaysia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - Malaysia	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022
		Children's Products

SUBSTANCE NOTES: "The prepolymer can also be formed by transesterification (B) of dimethyl terephthalate with ethylene glycol, forming methanol as a by-product (Scheirs and Long, 2003). Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)



NITROGEN

ID: 7727-37-9

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:31		
%: Impurity/Residual	GreenScreen: NoGS	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
None found	No warnings found on HPD Priority Hazard Lists			
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
EXEMPT	European Union / European Commission (EU EC)		EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety	
POSITIVE LIST	US Environmental Protection Agency (US EPA)		US EPA - DfE SCIL Green Circle - Verified Low Concern	
SUBSTANCE NOTES: In the DMT process, "Vapor from the top of the methanol column is sent to a cold water (or refrigerated) condenser, where the condensate returns to the methanol column, and noncondensables are purged with nitrogen before being emitted to the atmosphere." http://www.epa.gov/ttn/chief/ap42/ch06/final/c06s06-2.pdf				

MANGANESE OXIDE

ID: 1317-34-6

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:31	
%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: Unknown SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS	
REP	GHS - Japan	H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1B]	
	EC - CEPA DSL	Persistent	
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]	
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]	
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION	
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products	

SUBSTANCE NOTES: "Oxides of e.g. zinc or manganese are commonly added to catalyze the first reaction, and antimony (III) oxide is most commonly used to catalyze the second step reaction (Ravve, 2000; Stevens, 1999)." (Lithner 2011)

ACRYLIC EMULSION	%: 20.0000 - 30.0000	
PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Polymeric Material
RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES. None Noted		
OTHER MATERIAL NOTES:		

POLYACRYLIC ACID		ID: 9003-01-4		
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:22		
%: 10.0000 - 15.0000	GreenScreen: LT-UNK	RC: UNK	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
CAN	MAK		Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels	
	EC - CEPA DSL		Persistent	
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	AGENCY		NOTIFICATION	
RESTRICTED LIST	Perkins+Will (P+W)		P&W - Precautionary List	
			Watch List	
POSITIVE LIST	US Environmental Protection Agency (US EPA)		US EPA - DfE SCIL	
			Green Circle - Verified Low Concern	
SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.				
No known residuals or impurities.				

WATER				ID: 7732-18-5
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:22		
%: 10.0000 - 15.0000	GreenScreen: BM-4	RC: UNK	NANO: No	SUBSTANCE ROLE: Solvent
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
None found		No warnings found on HPD Priority Hazard Lists		

ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE SCIL Green Circle - Verified Low Concern
SUBSTANCE NOTES: No known residuals and impurities.		

DBDPE	%: 6.0000 - 14.0000
PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Polymeric Material	
RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.	
OTHER MATERIAL NOTES: "Decabromobiphenyl ether can be prepared at atmospheric pressure by reacting bromine with phenyl ether in ethylene dibromide solvent and in the presence of aluminum bromide catalyst. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB) Because this chemical is both a strong Lewis acid and a bromine source, it is likely one of the more common catalysts used to produce decabromobiphenyl ether. "Decabromobiphenyl ether is manufactured by the exhaustive bromination of phenyl ether. Lewis acid catalysis and an excess of bromine are used to obtain high conversions of the less reactive under-brominated intermediates to decabromobiphenyl ether. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB, bolding mine)	

DBDPE	ID: 84852-53-9
HAZARD DATA SOURCE: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-08-26 11:34:23	
%: 6.0000 - 14.0000	GreenScreen: BM-1 RC: UNK NANO: No SUBSTANCE ROLE: Flame retardant
HAZARD TYPE	AGENCY AND LIST TITLES WARNINGS
PBT	OSPAR - Priority PBTs & EDs & equivalent concern PBT - Chemical for Priority Action
PBT	ChemSec - SIN List PBT / vPvB (Persistent, Bioaccumulative, & Toxic / very Persistent & very Bioaccumulative)



ADDITIONAL LISTINGS	AGENCY	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 (C2CPPI)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Red List substances to avoid in Living Building Challenge V4.0 projects
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Priority for Inclusion in the Living Building Challenge Red List

SUBSTANCE NOTES: "Decabromobiphenyl ether can be prepared at atmospheric pressure by reacting bromine with phenyl ether in ethylene dibromide solvent and in the presence of aluminum bromide catalyst. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB)
Because this chemical is both a strong Lewis acid and a bromine source, it is likely one of the more common catalysts used to produce decabromobiphenyl ether.
"Decabromobiphenyl ether is manufactured by the exhaustive bromination of phenyl ether. Lewis acid catalysis and an excess of bromine are used to obtain high conversions of the less reactive under-brominated intermediates to decabromobiphenyl ether. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB, bolding mine)

BROMINATED DIPHENYL ETHERS

ID: 90193-67-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-07-27 21:20:51		
%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
PBT	WA DoE - PBT	PBT		
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

SUBSTANCE NOTES: "Decabromobiphenyl ether is manufactured by the exhaustive bromination of phenyl ether. Lewis acid catalysis and an excess of bromine are used to obtain high conversions of the less reactive under-brominated intermediates to decabromobiphenyl ether. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB, bolding mine)

ALUMINUM BROMIDE

ID: 7727-15-3

HAZARD DATA SOURCE: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2022-08-26 11:34:30
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%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
	EC - CEPA DSL		Persistent	
SKI	GHS - New Zealand		Skin corrosion category 1C	
EYE	GHS - New Zealand		Serious eye damage category 1	
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
None found			No listings found on Additional Hazard Lists	
SUBSTANCE NOTES: "Decabromobiphenyl ether can be prepared at atmospheric pressure by reacting bromine with phenyl ether in ethylene dibromide solvent and in the presence of aluminum bromide catalyst. [Gerhartz, W. (exec ed.). Ullmann's Encyclopedia of Industrial Chemistry. 5th ed.Vol A1: Deerfield Beach, FL: VCH Publishers, 1985 to Present., p. VA4 (85) 417]" (HSDB) Because this chemical is both a strong Lewis acid and a bromine source, it is likely one of the more common catalysts used to produce decabromobiphenyl ether.				

TITANIUM DIOXIDE		%: 5.0000 - 10.0000
PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes	MATERIAL TYPE: Geologically Derived Material
RESIDUALS AND IMPURITIES NOTES: None Noted. Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.		
OTHER MATERIAL NOTES:		



RUTILE (TiO2)

ID: 1317-80-2

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-08-26 11:34:20**

<p>%: 10.0000 - 20.0000</p> <p>HAZARD TYPE</p> <p>CAN</p> <p>CAN</p> <p>CAN</p> <p>CAN</p> <p></p> <p>MAM</p> <p>ADDITIONAL LISTINGS</p> <p>RESTRICTED LIST</p>	<p>GreenScreen: LT-1</p> <p>AGENCY AND LIST TITLES</p> <p>US CDC - Occupational Carcinogens</p> <p>CA EPA - Prop 65</p> <p>IARC</p> <p>MAK</p> <p>EC - CEPA DSL</p> <p>GHS - Japan</p> <p>AGENCY</p> <p>Cradle to Cradle Products Innovation Institute (C2CPII)</p>	<p>RC: UNK</p> <p>NANO: No</p> <p>WARNINGS</p> <p>Occupational Carcinogen</p> <p>Carcinogen - specific to chemical form or exposure route</p> <p>Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources</p> <p>Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value</p> <p>Persistent</p> <p>H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]</p> <p>NOTIFICATION</p> <p>C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022</p> <p>Cosmetics & Personal Care Products</p>	<p>SUBSTANCE ROLE: Pigment</p>
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SUBSTANCE NOTES: Titanium dioxide is mostly pure as impurities are removed in the processing.

CLAY

%: 5.0000 - 10.0000

PRODUCT THRESHOLD: **100 ppm** RESIDUALS AND IMPURITIES EVALUATION COMPLETED: **Yes** MATERIAL TYPE: **Geologically Derived Material**

RESIDUALS AND IMPURITIES NOTES: For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities. NOTES Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida): Silicon dioxide (44.4-45.7%) Aluminum oxide (37.4-39.6%) Ferrous oxide (0.4-0.8%) Titanium dioxide (0.4-1.7%) Phosphorous pentoxide (trace to 0.3%) Calcium oxide (trace to 0.2%) Magnesium oxide (trace to 0.1%) Sodium oxide (0.06% to 0.1%) Potassium oxide (0.1-0.3%) [Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

OTHER MATERIAL NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)
This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

POTASSIUM OXIDE

ID: 12136-45-7

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:19		
%: 44.4000 - 45.7000	GreenScreen: BM-2	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Filler
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
	EC - CEPA DSL	Persistent		
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		

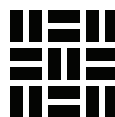
SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)
This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.
For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES
Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):
Silicon dioxide (44.4-45.7%)
Aluminum oxide (37.4-39.6%)
Ferrous oxide (0.4-0.8%)
Titanium dioxide (0.4-1.7%)
Phosphorous pentoxide (trace to 0.3%)
Calcium oxide (trace to 0.2%)
Magnesium oxide (trace to 0.1%)
Sodium oxide (0.06% to 0.1%)
Potassium oxide (0.1-0.3%)
[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

SILICON DIOXIDE

ID: 7631-86-9

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:19		
%: 44.4000 - 45.7000	GreenScreen: BM-1	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Filler
HAZARD TYPE	AGENCY AND LIST TITLES	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]		
	EC - CEPA DSL	Persistent		
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	AGENCY	NOTIFICATION
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE SCIL Green Circle - Verified Low Concern

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

- Silicon dioxide (44.4-45.7%)
- Aluminum oxide (37.4-39.6%)
- Ferrous oxide (0.4-0.8%)
- Titanium dioxide (0.4-1.7%)
- Phosphorous pentoxide (trace to 0.3%)
- Calcium oxide (trace to 0.2%)
- Magnesium oxide (trace to 0.1%)
- Sodium oxide (0.06% to 0.1%)
- Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:20		
%: 3.4000 - 39.6000	GreenScreen: BM-2	RC: UNK	NANO: No	SUBSTANCE ROLE: Filler
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
	EC - CEPA DSL	Persistent		
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	AGENCY	NOTIFICATION		
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022		
		Children's Products		

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

- Silicon dioxide (44.4-45.7%)
- Aluminum oxide (37.4-39.6%)
- Ferrous oxide (0.4-0.8%)
- Titanium dioxide (0.4-1.7%)
- Phosphorous pentoxide (trace to 0.3%)
- Calcium oxide (trace to 0.2%)
- Magnesium oxide (trace to 0.1%)
- Sodium oxide (0.06% to 0.1%)
- Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

TITANIUM DIOXIDE				ID: 13463-67-7
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:24		
%: 0.4000 - 1.7000	GreenScreen: LT-1	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Filler
HAZARD TYPE	AGENCY AND LIST TITLES		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	EU - GHS (H-Statements) Annex 6 Table 3-1		H351 - Suspected of causing cancer [Carcinogenicity - Category 2]	
	EC - CEPA DSL		Persistent	
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]	
CAN	EU - Annex VI CMRs		Carcinogen Category 2 - Suspected human Carcinogen	

ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE SCIL Green Circle - Verified Low Concern
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

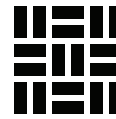
NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

- Silicon dioxide (44.4-45.7%)
- Aluminum oxide (37.4-39.6%)
- Ferrous oxide (0.4-0.8%)
- Titanium dioxide (0.4-1.7%)
- Phosphorous pentoxide (trace to 0.3%)
- Calcium oxide (trace to 0.2%)
- Magnesium oxide (trace to 0.1%)
- Sodium oxide (0.06% to 0.1%)
- Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

QUARTZ		ID: 14808-60-7
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:25
%: 0.0000 - 1.0000	GreenScreen: BM-1	RC: UNK NANO: Unknown SUBSTANCE ROLE: Filler



HAZARD TYPE	AGENCY AND LIST TITLES	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	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
	EC - CEPA DSL	Persistent
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	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

Silicon dioxide (44.4-45.7%)

Aluminum oxide (37.4-39.6%)

Ferrous oxide (0.4-0.8%)

Titanium dioxide (0.4-1.7%)

Phosphorous pentoxide (trace to 0.3%)

Calcium oxide (trace to 0.2%)

Magnesium oxide (trace to 0.1%)

Sodium oxide (0.06% to 0.1%)

Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]



FERROUS OXIDE

ID: 1345-25-1

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-08-26 11:34:26**

%: **0.4000 - 0.8000** GreenScreen: **LT-UNK** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Filler**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
	EC - CEPA DSL	Persistent
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

Silicon dioxide (44.4-45.7%)

Aluminum oxide (37.4-39.6%)

Ferrous oxide (0.4-0.8%)

Titanium dioxide (0.4-1.7%)

Phosphorous pentoxide (trace to 0.3%)

Calcium oxide (trace to 0.2%)

Magnesium oxide (trace to 0.1%)

Sodium oxide (0.06% to 0.1%)

Potassium oxide (0.1-0.3%)

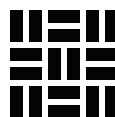
[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

PHOSPHORUS PENTOXIDE

ID: 1314-56-3

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-08-26 11:34:26**

%: **0.0000 - 0.3000** GreenScreen: **LT-P1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Filler**



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
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]
	EC - CEPA DSL	Persistent
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	H314 - Causes severe skin burns and eye damage [Skin corrosion / irritation - Category 1]
SKI	GHS - Australia	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C]
SKI	GHS - Korea	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1B
MAM	Québec CSST - WHMIS 1988	Class D1A - Very toxic material causing immediate and serious toxic effects
MAM	GHS - Korea	H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 2]
MAM	GHS - Japan	H330 - Fatal if inhaled [Acute toxicity (inhalation: dust, mist) - Category 2]
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

Silicon dioxide (44.4-45.7%)

Aluminum oxide (37.4-39.6%)

Ferrous oxide (0.4-0.8%)

Titanium dioxide (0.4-1.7%)

Phosphorous pentoxide (trace to 0.3%)

Calcium oxide (trace to 0.2%)

Magnesium oxide (trace to 0.1%)

Sodium oxide (0.06% to 0.1%)

Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

CALCIUM OXIDE (POST-CONSUMER)

ID: 1305-78-8

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-08-26 11:34:27**

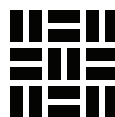
%: **0.0000 - 0.2000**

GreenScreen: **BM-2**

RC: **UNK**

NANO: **Unknown**

SUBSTANCE ROLE: **Filler**



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
	EC - CEPA DSL	Persistent
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	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested. For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

Silicon dioxide (44.4-45.7%)
 Aluminum oxide (37.4-39.6%)
 Ferrous oxide (0.4-0.8%)
 Titanium dioxide (0.4-1.7%)
 Phosphorous pentoxide (trace to 0.3%)
 Calcium oxide (trace to 0.2%)
 Magnesium oxide (trace to 0.1%)
 Sodium oxide (0.06% to 0.1%)
 Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

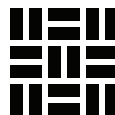
MAGNESIUM OXIDE

ID: 1309-48-4

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:27	
%: Impurity/Residual	GreenScreen: BM-3dg	RC: UNK	NANO: Unknown SUBSTANCE ROLE: Impurity/Residual

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
	EC - CEPA DSL	Persistent
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE SCIL
		Green Circle - Verified Low Concern
<p>SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)</p> <p>This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.</p> <p>For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.</p> <p>NOTES</p> <p>Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):</p> <p>Silicon dioxide (44.4-45.7%)</p> <p>Aluminum oxide (37.4-39.6%)</p> <p>Ferrous oxide (0.4-0.8%)</p> <p>Titanium dioxide (0.4-1.7%)</p> <p>Phosphorous pentoxide (trace to 0.3%)</p> <p>Calcium oxide (trace to 0.2%)</p> <p>Magnesium oxide (trace to 0.1%)</p> <p>Sodium oxide (0.06% to 0.1%)</p> <p>Potassium oxide (0.1-0.3%)</p> <p>[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]</p>		

ANATASE (TiO2)				ID: 1317-70-0
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:28		
%: Impurity/Residual	GreenScreen: LT-1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	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		
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

AGENCY

NOTIFICATION

RESTRICTED LIST

Cradle to Cradle Products Innovation
Institute (C2CPII)

C2C Certified v4 Product Standard Restricted
Substances List (RSL) - Effective July 1, 2022

Cosmetics & Personal Care Products

SUBSTANCE NOTES: KAOLIN CLAY (primary CASRN is 1332-58-7)

This is a geological material and impurities and true composition are always variable. Substances listed in connection to this material are a "best guess" and are not a guarantee of presence in the actual material. No actual raw materials are tested.

For this material not only are impurities considered but the actual composition. Per the Pharos database, the following information is available. All of these are listed on this HPD for information purposes only. Substances that are below the threshold will be recorded as impurities.

NOTES

Brosnan and Sanders itemize the components of two kaolin clays (from Georgia and Florida):

Silicon dioxide (44.4-45.7%)

Aluminum oxide (37.4-39.6%)

Ferrous oxide (0.4-0.8%)

Titanium dioxide (0.4-1.7%)

Phosphorous pentoxide (trace to 0.3%)

Calcium oxide (trace to 0.2%)

Magnesium oxide (trace to 0.1%)

Sodium oxide (0.06% to 0.1%)

Potassium oxide (0.1-0.3%)

[Denis Brosnan and John Sanders, "Fine Ceramic Products," chapter in: Jessica Elzea Kogel, Nikhil Trivedi, James Barker, Stanley Krukowski (eds.), 7th Edition: Industrial Minerals & Rocks – Commodities, Markets, and Uses, Society for Mining Metallurgy, and Exploration, 2009.]

ANTIMONY OXIDE

%: 3.0000 - 8.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes

MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.

OTHER MATERIAL NOTES: Trace impurities such as arsenic, copper, iron, lead, and nickel.

ANTIMONY OXIDE (ANTIMONY TRIOXIDE)

ID: 1309-64-4

HAZARD DATA SOURCE: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2022-08-26 11:34:21

%: 6.0000 - 16.0000

GreenScreen: BM-1

RC: Both

NANO: No

SUBSTANCE ROLE: Flame retardant

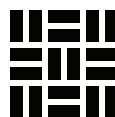


HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CAN	CA EPA - Prop 65	Carcinogen
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CAN	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1B]
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
SKI	GHS - New Zealand	Skin irritation category 2
EYE	GHS - New Zealand	Eye irritation category 2
	EC - CEPA DSL	Persistent
CAN	GHS - New Zealand	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]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
MAM	GHS - Japan	H371 - May cause damage to organs [Specific target organs/systemic toxicity following single exposure - Category 2]
SKI	GHS - Korea	H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1]
AQU	GHS - Korea	H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2]
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
CAN	GHS - Korea	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]

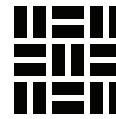
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
RESTRICTED LIST	Perkins+Will (P+W)	P&W - Precautionary List Precautionary list of substances recommended for avoidance
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CP II)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products

SUBSTANCE NOTES: Trace impurities such as arsenic, copper, iron, lead, and nickel.

NICKEL (METALLIC)				ID: 7440-02-0
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:34		
%: Impurity/Residual	GreenScreen: LT-1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual



HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man
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	IARC	Group 2b - Possibly carcinogenic to humans
CAN	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
RES	MAK	Sensitizing Substance Sah - Danger of airway & skin sensitization
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
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]
	EC - CEPA DSL	Persistent
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]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - Japan	H317 - May cause an allergic skin reaction [Skin sensitizer - Category 1]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
SKI	GHS - New Zealand	Skin sensitisation category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 1
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]

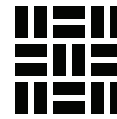


ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products
SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.		

LEAD

ID: 7439-92-1

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:34		
%: Impurity/Residual	GreenScreen: BM-1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor		
PBT	OSPAR - Priority PBTs & EDs & equivalent concern	PBT - Chemical for Priority Action		
REP	EU - SVHC Authorisation List	Toxic to reproduction - Candidate list		
PBT	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant - Tier 1		
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant		
CAN	CA EPA - Prop 65	Carcinogen		
CAN	IARC	Group 2b - Possibly carcinogenic to humans		
CAN	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man		
CAN	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen		
DEV	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant		
CAN	US EPA - IRIS Carcinogens	(1986) Group B2 - Probable human Carcinogen		
CAN	IARC	Group 2a - Agent is probably Carcinogenic to humans		
DEV	CA EPA - Prop 65	Developmental toxicity		
PBT	US EPA - Priority PBTs (NWMP)	Priority PBT		
PBT	WA DoE - PBT	PBT		
PBT	US EPA - Toxics Release Inventory PBTs	PBT		
DEV	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Developmental Toxicity		



REP	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Reproductive Toxicity
REP	EU - REACH Annex XVII CMRs	Toxic to Reproduction Category 1 - Substances known to impair fertility or cause Developmental Toxicity in humans
REP	EU - Annex VI CMRs	Reproductive Toxicity - Category 1A
GEN	MAK	Germ Cell Mutagen 3a
REP	CA EPA - Prop 65	Reproductive Toxicity - Female
REP	CA EPA - Prop 65	Reproductive Toxicity - Male
CAN	GHS - Korea	H350 - May cause cancer [Carcinogenicity - Category 1]
REP	GHS - Korea	H360 - May damage fertility or the unborn child [Reproductive toxicity - Category 1]
REP	GHS - Japan	H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1A]
DEV	GHS - Australia	H360Df - May damage the unborn child. Suspected of damaging fertility [Reproductive toxicity - Category 1A or 1B]
REP	EU - GHS (H-Statements) Annex 6 Table 3-1	H360FD - May damage fertility. May damage the unborn child [Reproductive toxicity - Category 1A or 1B]
DEV	EU - GHS (H-Statements) Annex 6 Table 3-1	H362 - May cause harm to breast-fed children [Reproductive toxicity, effects on or via lactation]
REP	GHS - New Zealand	Reproductive toxicity category 1
	EC - CEPA DSL	Persistent
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]
GEN	GHS - Australia	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
GEN	GHS - Japan	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	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]
GEN	GHS - New Zealand	Germ cell mutagenicity category 2



MAM	GHS - New Zealand	Acute oral toxicity category 3
SKI	GHS - Korea	H317 - May cause an allergic skin reaction [Skin sensitization - Category 1]
REP	GHS - New Zealand	Effects on or via lactation
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
ADDITIONAL LISTINGS	AGENCY	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 (C2CPiI)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPiI)	C2C Certified v4 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 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Footwear, Apparel & Jewelry Products
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Red List substances to avoid in Living Building Challenge V4.0 projects
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Watch List Substances Considered for Inclusion in the Living Building Challenge Red List

SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.

IRON

ID: 7439-89-6

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:35		
%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
	EC - CEPA DSL	Persistent
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.		

COPPER				ID: 7440-50-8	
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:36			
%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual	
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS		
GEN	GHS - New Zealand		Germ cell mutagenicity category 1		
EYE	GHS - New Zealand		Eye irritation category 2		
	EC - CEPA DSL		Persistent		
MAM	GHS - Japan		H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]		
SKI	GHS - New Zealand		Skin sensitisation category 1		
SKI	GHS - Japan		H317 - May cause an allergic skin reaction [Skin Sensitization - Category 1A]		
MAM	GHS - New Zealand		Acute inhalation toxicity category 2		
MAM	GHS - New Zealand		Acute oral toxicity category 2		
AQU	GHS - New Zealand		Hazardous to the aquatic environment - acute category 1		
AQU	GHS - New Zealand		Hazardous to the aquatic environment - chronic category 2		



ADDITIONAL LISTINGS	AGENCY	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 (C2CPII)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Watch List Substances Considered for Inclusion in the Living Building Challenge Red List

SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section **INVENTORY AND SCREENING NOTES**.

ARSENIC, INORGANIC

ID: 7440-38-2

HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:36		
%: Impurity/Residual	GreenScreen: LT-1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen		
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor		
CAN	MAK	Carcinogen Group 1 - Substances that cause cancer in man		
PBT	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant - Tier 1		
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters		
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		
DEV	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant		
CAN	US EPA - IRIS Carcinogens	(1986) Group A - Human Carcinogen		
MAM	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances		
GEN	MAK	Germ Cell Mutagen 3a		
CAN	GHS - Australia	H350 - May cause cancer [Carcinogenicity - Category 1A or 1B]		



CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
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]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H331 - Toxic if inhaled [Acute toxicity (inhalation) - Category 3]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H301 - Toxic if swallowed [Acute toxicity (oral) - Category 3]
CAN	GHS - New Zealand	Carcinogenicity category 1
	EC - CEPA DSL	Persistent
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 - Australia	H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2]
MAM	GHS - New Zealand	Specific target organ toxicity - repeated exposure category 1
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
MAM	GHS - New Zealand	Acute inhalation toxicity category 2
MAM	GHS - New Zealand	Acute oral toxicity category 2
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	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]
REP	GHS - Japan	H361 - Suspected of damaging fertility or the unborn child [Toxic to reproduction - Category 2]
MAM	Québec CSST - WHMIS 1988	Class D1A - Very toxic material causing immediate and serious toxic effects
GEN	GHS - New Zealand	Germ cell mutagenicity category 2
MAM	GHS - Malaysia	H300 - Fatal if swallowed [Acute toxicity (oral) - Category 1 or 2]
MAM	GHS - Malaysia	H331 - Toxic if inhaled [Acute toxicity (inhalation) - Category 3]
MAM	GHS - Australia	H301 - Toxic if swallowed [Acute toxicity (oral) - Category 3]



MAM	GHS - Australia	H331 - Toxic if inhaled [Acute toxicity (inhalation) - Category 3]
AQU	GHS - Malaysia	H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1]
AQU	GHS - Malaysia	H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1]
MAM	GHS - Korea	H331 - Toxic if inhaled [Acute toxicity (inhalation) - Category 3]
ADDITIONAL LISTINGS	AGENCY	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 (C2CPiI)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Core Restrictions
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPiI)	C2C Certified v4 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 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Red List substances to avoid in Living Building Challenge V4.0 projects
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals Watch List Substances Considered for Inclusion in the Living Building Challenge Red List
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPiI)	C2C Certified v4 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products

SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section **INVENTORY AND SCREENING NOTES**.

PIGMENT

%: 0.1000 - 3.0000

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section **INVENTORY AND SCREENING NOTES**.

OTHER MATERIAL NOTES: This is an inorganic pigment with no hazardous ingredients. The manufacturer of the substance would not release any information beyond the SDS. The SDS lists no hazardous or regulated ingredients.

WATER		ID: 7732-18-5		
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:23		
%: 0.5000 - 7.5000	GreenScreen: BM-4	RC: UNK	NANO: No	SUBSTANCE ROLE: Solvent
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
None found			No warnings found on HPD Priority Hazard Lists	
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
EXEMPT	European Union / European Commission (EU EC)		EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety	
POSITIVE LIST	US Environmental Protection Agency (US EPA)		US EPA - DfE SCIL Green Circle - Verified Low Concern	
SUBSTANCE NOTES:				

PROPYLENE GLYCOL		ID: 57-55-6		
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:24		
%: 0.2500 - 5.0000	GreenScreen: BM-2	RC: UNK	NANO: No	SUBSTANCE ROLE: Solvent
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
END	TEDX - Potential Endocrine Disruptors		Potential Endocrine Disruptor	
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE SCIL		
		Green Circle - Verified Low Concern		
SUBSTANCE NOTES: ... Impurities of propylene glycol include chlorides (1 ppm max), iron (1.0 ppm max), water (0.2 wt% max), and dipropylene glycol (<0.2%).				

1-HEXADECYLPYRIDINIUM CHLORIDE		ID: 6004-24-6		
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:32		
%: Impurity/Residual	GreenScreen: LT-UNK	RC: UNK	NANO: Unknown	SUBSTANCE ROLE: Impurity/Residual

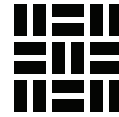
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKI	GHS - New Zealand	Skin irritation category 2
EYE	GHS - New Zealand	Eye irritation category 2
MAM	GHS - New Zealand	Acute inhalation toxicity category 2
MAM	GHS - New Zealand	Acute oral toxicity category 2
AQU	GHS - New Zealand	Hazardous to the aquatic environment - acute category 1
AQU	GHS - New Zealand	Hazardous to the aquatic environment - chronic category 1
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION
None found		No listings found on Additional Hazard Lists
SUBSTANCE NOTES: 6004-24-6, CPC, Hexadecylpyridinium chloride, monohydrate C16-alkylpyridinium chloride (in propylene glycol)		

DIPROPYLENE GLYCOL METHYL ETHER				ID: 34590-94-8
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:32		
%: Impurity/Residual	GreenScreen: LT-UNK	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES		WARNINGS	
None found		No warnings found on HPD Priority Hazard Lists		
ADDITIONAL LISTINGS	AGENCY		NOTIFICATION	
POSITIVE LIST	US Environmental Protection Agency (US EPA)		US EPA - DfE SCIL Green Circle - Verified Low Concern	
SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING NOTES.				

IRON				ID: 7439-89-6
HAZARD DATA SOURCE: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-08-26 11:34:33		
%: Impurity/Residual	GreenScreen: LT-P1	RC: UNK	NANO: No	SUBSTANCE ROLE: Impurity/Residual
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor		
	EC - CEPA DSL	Persistent		
ADDITIONAL LISTINGS	AGENCY	NOTIFICATION		
None found		No listings found on Additional Hazard Lists		



SUBSTANCE NOTES: Residuals and impurities were screened using the toxnet database. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric. For additional information please check the section INVENTORY AND SCREENING 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) - Classroom & Office scenario	
CERTIFYING PARTY: Self-declared		ISSUE DATE: 2020-07-28	CERTIFIER OR LAB: Berkeley
APPLICABLE FACILITIES: All facilities included		EXPIRY DATE:	Analytical
CERTIFICATE URL:			
CERTIFICATION AND COMPLIANCE NOTES: This fabric will be tested the first quarter of 2021. It is a new product offering and will be tested with Berkeley Analytical.			

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.

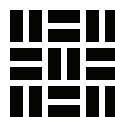
CONTRACT SERIES TWO SHADING SYSTEM

MANUFACTURER (OR GENERIC): Rollease Acmeda

HPD URL: https://hpdrepository.hpd-collaborative.org/repository/HPDs/430_Rollease_Acmeda_Contract_Series_Two_Shading_System.pdf
 ACCESSORY TYPE: Other
 CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: This is a system for use with Mesa fabric.

Section 5: General Notes

This material was screened to 100 ppm. All residuals and impurities were considered and noted in the HPD. Please note: Residuals and impurities were screened using the toxnet database. This database is a general database and lists possible residuals and impurities for chemicals and substances as reported in peer-reviewed studies or other credible documentation. Just because a chemical could have the impurity listed in the database does not mean that this material contains that impurity. Actual impurities are a product of the sourced product and its suppliers. Residuals and impurities listed in the HPD are for information purposes only and are not 100% guaranteed to be present in the fabric.



Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: Rollease Acmeda

ADDRESS: 200 Harvard Ave

Stamford CT 06902, United States

WEBSITE: <https://www.rolleaseacmeda.com/us/home>

CONTACT NAME: Lindsey DeSalvo

TITLE: Product Manager- Fabric

PHONE: 203-590-5259

EMAIL: lindsey.desalvo@rolleaseacmeda.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

CAN Cancer

DEV Developmental toxicity

END Endocrine activity

EYE Eye irritation/corrosivity

GEN Gene mutation

GLO Global warming

LAN Land toxicity

MAM Mammalian/systemic/organ toxicity

MUL Multiple

NEU Neurotoxicity

NF Not found on Priority Hazard Lists

OZO Ozone depletion

PBT Persistent, bioaccumulative, and toxic

PHY Physical hazard (flammable or reactive)

REP Reproductive

RES Respiratory sensitization

SKI Skin sensitization/irritation/corrosivity

UNK Unknown

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 (due to insufficient data)

LT-P1 List Translator Possible 1 (Possible Benchmark-1)

LT-1 List Translator 1 (Likely Benchmark-1)

LT-UNK List Translator Benchmark Unknown

NoGS No GreenScreen.

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.

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.