

HPD UNIQUE IDENTIFIER: 21118

CLASSIFICATION: 12 Furnishings

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

- Nested Materials Method
- Basic Method

Threshold Disclosed Per

- Material
- Product

Threshold level

- 100 ppm
- 1,000 ppm
- Per GHS SDS
- Other

Residuals/Impurities

Residuals/Impurities Considered in 7 of 7 Materials

Explanation(s) provided for Residuals/Impurities?
 Yes No

All Substances Above the Threshold Indicated Are:

Characterized Yes Ex/SC Yes No
% weight and role provided for all substances.

Screened Yes Ex/SC Yes No
All substances screened using Priority Hazard Lists with results disclosed.

Identified Yes Ex/SC Yes No
All substances disclosed by Name (Specific or Generic) and Identifier.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
GREENSCREEN SCORE | HAZARD TYPE

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

Number of Greenscreen BM-4/BM3 contents ... 2

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-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 Material Ingredients, Option 1

Third Party Verified?

Yes

No

PREPARER: **Self-Prepared**

VERIFIER:

VERIFICATION #:

SCREENING DATE: 2020-07-27

PUBLISHED DATE: 2020-07-28

EXPIRY DATE: 2023-07-27



Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard

PET

%: 45.0000 - 55.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: 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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

%: 45.0000 - 55.0000

GS: LT-UNK

RC: UNK

NANO: No

SUBSTANCE ROLE: Polymer species

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority 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 SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual** GS: **BM-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
CANCER	EU - GHS (H-Statements)	H351 - Suspected of causing cancer
MULTIPLE	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CANCER	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CANCER	GHS - Japan	Carcinogenicity - Category 1B [H350]

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

MANGANESE OXIDE

ID: 1317-34-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual** GS: **LT-P1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

REPRODUCTIVE**GHS - Japan****Toxic to reproduction - Category 1B [H360]**

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)

NITROGEN

ID: 7727-37-9

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual** GS: **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

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>

ZINC OXIDE

ID: 1314-13-2

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual** GS: **BM-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

RESPIRATORY**AOEC - Asthmagen****Asthmagen (Rs) - sensitizer-induced****ACUTE AQUATIC****EU - GHS (H-Statements)****H400 - Very toxic to aquatic life****CHRON AQUATIC****EU - GHS (H-Statements)****H410 - Very toxic to aquatic life with long lasting effects****ENDOCRINE****TEDX - Potential Endocrine Disruptors****Potential Endocrine Disruptor****MULTIPLE****German FEA - Substances Hazardous to Waters****Class 2 - Hazard to Waters**

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)

ACRYLIC EMULSION

%: 20.0000 - 30.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: 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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

%: 10.0000 - 15.0000

GS: LT-UNK

RC: UNK

NANO: No

SUBSTANCE ROLE: Binder

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

MAK

Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

%: 10.0000 - 15.0000

GS: 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

SUBSTANCE NOTES: No known residuals and impurities.

DBDPE

%: 6.0000 - 14.0000

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: 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 SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2020-07-27**

#: **6.0000 - 14.0000**

GS: **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)
PBT	EHP - San Antonio Statement on BFRs & CFRs	Flame retardant substance class of concern for PB&T & long range transport

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)

ALUMINUM BROMIDE

ID: 7727-15-3

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual**

GS: **LT-P1**

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

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.

BROMINATED DIPHENYL ETHERS

ID: 90193-67-2

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

HAZARD SCREENING DATE: **2020-07-27**

%: **Impurity/Residual** GS: **LT-P1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
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PBT	WA DoE - PBT	PBT
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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)

TITANIUM DIOXIDE %: 5.0000 - 10.0000

PRODUCT THRESHOLD: **100 ppm** RESIDUALS AND IMPURITIES CONSIDERED: **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 SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2020-07-27**

%: **10.0000 - 20.0000** GS: **LT-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Pigment**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
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CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
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CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
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CANCER	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
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CANCER	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
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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 CONSIDERED: **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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

#: 44.4000 - 45.7000

GS: LT-UNK

RC: UNK

NANO: Unknown

SUBSTANCE ROLE: Filler

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority 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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

#: 44.4000 - 45.7000

GS: BM-1

RC: UNK

NANO: Unknown

SUBSTANCE ROLE: Filler

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

GHS - Japan

Carcinogenicity - Category 1A [H350]

CANCER

GHS - Australia

H350i - May cause cancer by inhalation

SUBSTANCE NOTES: 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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

#: 3.4000 - 39.6000

GS: BM-2

RC: UNK

NANO: No

SUBSTANCE ROLE: Filler

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

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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

#: 0.4000 - 0.8000

GS: LT-UNK

RC: UNK

NANO: Unknown

SUBSTANCE ROLE: Filler

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

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

HAZARD SCREENING DATE: **2020-07-27**

#: **0.4000 - 1.7000**

GS: **LT-1**

RC: **UNK**

NANO: **Unknown**

SUBSTANCE ROLE: **Filler**

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

SUBSTANCE NOTES: 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.]

ANATASE (TIO2)

ID: 1317-70-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

%: Impurity/Residual GS: LT-1 RC: UNK NANO: No SUBSTANCE ROLE: Impurity/Residual

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
CANCER	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value

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

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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

%: **0.0000 - 0.2000**GS: **LT-1**RC: **UNK**NANO: **Unknown**SUBSTANCE ROLE: **Filler**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	EU - GHS (H-Statements)	H350 - May cause cancer

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 OXIDEID: **1309-48-4**%: **Impurity/Residual**GS: **LT-UNK**RC: **UNK**NANO: **Unknown**SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

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.]

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

HAZARD SCREENING DATE: **2020-07-27**

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

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKIN IRRITATION	EU - GHS (H-Statements)	H314 - Causes severe skin burns and eye damage

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

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

HAZARD SCREENING DATE: **2020-07-27**

%: **0.0000 - 1.0000** GS: **LT-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Filler**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources
CANCER	US NIH - Report on Carcinogens	Known to be Human Carcinogen (respirable size - occupational setting)
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
CANCER	GHS - New Zealand	6.7A - Known or presumed human carcinogens
CANCER	GHS - Japan	Carcinogenicity - Category 1A [H350]
CANCER	GHS - Australia	H350i - May cause cancer by inhalation

SUBSTANCE NOTES: 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 CONSIDERED: **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 SCREENING METHOD: **Pharos Chemical and Materials Library**

HAZARD SCREENING DATE: **2020-07-27**

%: 6.0000 - 16.0000

GS: **BM-1**

RC: **Both**

NANO: **No**

SUBSTANCE ROLE: **Flame retardant**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
CANCER	EU - GHS (H-Statements)	H351 - Suspected of causing cancer
MULTIPLE	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CANCER	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CANCER	GHS - Japan	Carcinogenicity - Category 1B [H350]

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

ARSENIC, INORGANIC

ID: 7440-38-2

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual**

GS: **LT-1**

RC: **UNK**

NANO: **No**

SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
CANCER	US EPA - IRIS Carcinogens	(1986) Group A - Human Carcinogen
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	US NIH - Report on Carcinogens	Known to be a human Carcinogen
PBT	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant - Tier 1
ACUTE AQUATIC	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
CHRON AQUATIC	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
MAMMALIAN	EU - GHS (H-Statements)	H301 - Toxic if swallowed
MAMMALIAN	EU - GHS (H-Statements)	H331 - Toxic if inhaled
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
MAMMALIAN	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances
CANCER	GHS - Korea	Carcinogenicity - Category 1 [H350 - May cause cancer]
CANCER	GHS - New Zealand	6.7A - Known or presumed human carcinogens
CANCER	GHS - Japan	Carcinogenicity - Category 1A [H350]
GENE MUTATION	MAK	Germ Cell Mutagen 3a
CANCER	GHS - Australia	H350 - May cause cancer

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual**

GS: **LT-P1**

RC: **UNK**

NANO: **No**

SUBSTANCE ROLE: **Impurity/Residual**

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

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual** GS: **LT-P1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual** GS: **BM-1** RC: **UNK** NANO: **No** SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
CANCER	US EPA - IRIS Carcinogens	(1986) Group B2 - Probable human Carcinogen
CANCER	IARC	Group 2a - Agent is probably Carcinogenic to humans
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity
PBT	US EPA - Priority PBTs (NWMP)	Priority PBT
PBT	WA DoE - PBT	PBT
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Male
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
PBT	US EPA - Toxics Release Inventory PBTs	PBT
REPRODUCTIVE	EU - SVHC Authorisation List	Toxic to reproduction - Candidate list
PBT	OSPAR - Priority PBTs & EDs & equivalent concern	PBT - Chemical for Priority Action
PBT	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant - Tier 1
DEVELOPMENTAL	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Developmental Toxicity

REPRODUCTIVE	US NIH - Reproductive & Developmental Monographs	Clear Evidence of Adverse Effects - Reproductive Toxicity
REPRODUCTIVE	EU - GHS (H-Statements)	H360FD - May damage fertility. May damage the unborn child
DEVELOPMENTAL	EU - GHS (H-Statements)	H362 - May cause harm to breast-fed children
REPRODUCTIVE	EU - REACH Annex XVII CMRs	Toxic to Reproduction Category 1 - Substances known to impair fertility or cause Developmental Toxicity in humans
MULTIPLE	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CANCER	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CANCER	GHS - Korea	Carcinogenicity - Category 1 [H350 - May cause cancer]
REPRODUCTIVE	GHS - Korea	Reproductive toxicity - Category 1 [H360 - May damage fertility or the unborn child]
REPRODUCTIVE	GHS - New Zealand	6.8A - Known or presumed human reproductive or developmental toxicants
REPRODUCTIVE	GHS - Japan	Toxic to reproduction - Category 1A [H360]
GENE MUTATION	MAK	Germ Cell Mutagen 3a
REPRODUCTIVE	EU - Annex VI CMRs	Reproductive Toxicity - Category 1A
DEVELOPMENTAL	GHS - Australia	H360Df - May damage the unborn child. Suspected of damaging fertility

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.

NICKEL (METALLIC)

ID: 7440-02-0

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

HAZARD SCREENING DATE: **2020-07-27**

#: **Impurity/Residual**

GS: **LT-1**

RC: **UNK**

NANO: **No**

SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
CANCER	IARC	Group 1 - Agent is Carcinogenic to humans
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	US NIH - Report on Carcinogens	Known to be a human Carcinogen
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
SKIN SENSITIZE	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction
CANCER	EU - GHS (H-Statements)	H351 - Suspected of causing cancer
ORGAN TOXICANT	EU - GHS (H-Statements)	H372 - Causes damage to organs through prolonged or repeated exposure
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
CANCER	MAK	Carcinogen Group 1 - Substances that cause cancer in man
RESPIRATORY	MAK	Sensitizing Substance Sah - Danger of airway & skin sensitization

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 CONSIDERED: 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 SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-07-27

%: 0.5000 - 7.5000

GS: 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

PROPYLENE GLYCOL

ID: 57-55-6

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2020-07-27**%: **0.2500 - 5.0000**GS: **BM-2**RC: **UNK**NANO: **No**SUBSTANCE ROLE: **Solvent**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

ENDOCRINE**TEDX - Potential Endocrine Disruptors****Potential Endocrine Disruptor**

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 SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual**GS: **LT-P1**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**

SUBSTANCE NOTES: 6004-24-6, CPC, Hexadecylpyridinium chloride, monohydrate C16-alkylpyridinium chloride (in propylene glycol)

DIPROPYLENE GLYCOL METHYL ETHER

ID: 34590-94-8

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual**GS: **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**

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 SCREENING METHOD: **Pharos Chemical and Materials Library**HAZARD SCREENING DATE: **2020-07-27**%: **Impurity/Residual**GS: **LT-P1**RC: **UNK**NANO: **No**SUBSTANCE ROLE: **Impurity/Residual**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

ENDOCRINE**TEDX - Potential Endocrine Disruptors****Potential Endocrine Disruptor**

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-**

EXPIRY DATE:

CERTIFIER OR LAB: **Berkeley**

APPLICABLE FACILITIES: **All facilities included**

07-28

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

HPD URL: <https://hpcrepository.hpd->

[collaborative.org/repository/HPDs/430_Rollease_Acmeda_Contract_Series_Two_Shading_System.pdf](https://hpcrepository.hpd-collaborative.org/repository/HPDs/430_Rollease_Acmeda_Contract_Series_Two_Shading_System.pdf)

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.



MANUFACTURER INFORMATION

MANUFACTURER: **Rollease Acmeda**

ADDRESS: **200 Harvard Ave**

Stamford CT 06902, United States

WEBSITE: **<https://www.rolleseeacmeda.com/us/home>**

CONTACT NAME: **Lindsey DeSalvo**

TITLE: **Product Manager- Fabric**

PHONE: **203-590-5259**

EMAIL: **lindsey.desalvo@rolleseeacmeda.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 (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)

NoGS No GreenScreen.

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.