

HPD UNIQUE IDENTIFIER: 28615

CLASSIFICATION: 23 07 19 HVAC Piping Insulation

PRODUCT DESCRIPTION: Aerocel-AC (standard), Aerocel-REF (refrigeration), Aerocel-ULP (ultra-low perm), Aerocel-WG (white/gray), Aerocel-ULS™ Duct Insulation (ultra low smoke), AeroFit (prefabricated fittings), and Aerocel with SaniGuard; standard tubes, SSPT tubes, standard sheets and rolls, sheets and rolls with PSA are all designed to insulate HVAC and plumbing piping & equipment. Applicable CSI sections: 220716, 220719, 230713, 230716, 230719 and 233113.

Section 1: Summary

Basic Method / Product Threshold

CONTENT INVENTORY

<p>Inventory Reporting Format</p> <p><input type="radio"/> Nested Materials Method</p> <p><input checked="" type="radio"/> Basic Method</p> <p>Threshold Disclosed Per</p> <p><input type="radio"/> Material</p> <p><input checked="" type="radio"/> Product</p>	<p>Threshold Level</p> <p><input type="radio"/> 100 ppm</p> <p><input checked="" type="radio"/> 1,000 ppm</p> <p><input type="radio"/> Per GHS SDS</p> <p><input type="radio"/> Other</p>	<p>Residuals/Impurities</p> <p><input checked="" type="radio"/> Considered</p> <p><input type="radio"/> Partially Considered</p> <p><input type="radio"/> Not Considered</p> <p>Explanation(s) provided for Residuals/Impurities?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p><i>All Substances Above the Threshold Indicated Are:</i></p> <p>Characterized <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>% weight and role provided for all substances.</i></p> <p>Screened <input type="radio"/> Yes Ex/SC <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><i>All substances screened using Priority Hazard Lists with results disclosed.</i></p> <p>Identified <input type="radio"/> Yes Ex/SC <input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p><i>One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.</i></p>
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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

AEROCEL® HVAC REFRIGERATION & PLUMBING INSULATION [
ALUMINUM HYDROXIDE, DRIED BM-2 **BICYCLO(2.2.1)HEPT-2-ENE, 5-**
ETHYLIDENE-, POLYMER WITH ETHENE AND 1-PROPENE LT-UNK
UNDISCLOSED LT-UNK | RES **UNDISCLOSED** LT-1 | CAN | END | AQU |
 PBT | MUL | DEV **1-PENTENE, 4-METHYL-, POLYMER WITH ETHENE**
NoGS **ETHENE, POLYMER WITH 1-PROPENE** LT-UNK
POLYETHYLENE LT-UNK **UNDISCLOSED** BM-1 | END | RES | MUL |
 AQU **UNDISCLOSED** LT-UNK **UNDISCLOSED** LT-P1 | SKI | MUL | AQU
UNDISCLOSED BM-2 **UNDISCLOSED** LT-UNK | SKI **UNDISCLOSED** LT-
UNK **AMMONIUM METAVANADATE** LT-P1 | MUL | GEN **WATER** BM-4
UNDISCLOSED NoGS **UNDISCLOSED** LT-P1 | END | SKI | MUL | GEN |
 EYE | AQU **UNDISCLOSED** LT-UNK **UNDISCLOSED** LT-UNK | EYE | PHY
UNDISCLOSED LT-UNK | SKI | EYE **UNDISCLOSED** LT-UNK | SKI | CAN
UNDISCLOSED BM-3dg | CAN **UNDISCLOSED** BM-1 | END | DEV | MUL
 | REP | SKI | PHY | MAM **UNDISCLOSED** LT-P1 | END | DEV | EYE | PHY
UNDISCLOSED BM-2 | RES **UNDISCLOSED** BM-1 | CAN **TITANIUM**
DIOXIDE LT-1 | CAN | END **CARBON BLACK** BM-1 | CAN **N-HEXANE**
BM-1 | END | MUL | REP | SKI | PHY | MAM | AQU]

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

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1
 Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Aeroflex worked with an HPDC Approved Preparer to confirm that all intentionally added ingredients, residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold. Due to the proprietary nature of the information, the name and CAS number for certain chemicals have been redacted.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: UL/GreenGuard Gold Certified
 LCA: Environmental Product Declaration (EPD) by SCS

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1

Third Party Verified?

Yes

No

PREPARER: ToxServices LLC
VERIFIER: SCS Global Services
VERIFICATION #: qGE-11058

SCREENING DATE: 2021-04-27
PUBLISHED DATE: 2022-06-03
EXPIRY DATE: 2024-04-27

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

AEROCEL® HVAC REFRIGERATION & PLUMBING INSULATION

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Aeroflex worked with an HPDC Approved Preparer to confirm that all residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold.

OTHER PRODUCT NOTES: Aerocel® is available in the following formulas: AC (standard), REF™ (refrigeration), ULP® (ultra low perm) and ULS™ Duct Insulation (ultra low smoke). Tube insulation is available in black and white (all 3 formulas); sheet & roll insulation in black only and Aerocel with SaniGuard™. Size range (tubes): ID =1/4" – 16" IPS, Wall Thickness = 3/8" – 2", (sheets & rolls): 1/8" - 2" thick.

ALUMINUM HYDROXIDE, DRIED

ID: 21645-51-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-02-09 11:07:20

#: 32.7987 - 39.9600 GS: BM-2 RC: None NANO: No SUBSTANCE ROLE: Structure component

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

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-2 was provided through the HPD 2.2 Builder Tool.

BICYCLO(2.2.1)HEPT-2-ENE, 5-ETHYLIDENE-, POLYMER WITH ETHENE AND 1-PROPENE

ID: 25038-36-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-02-09 11:03:09

#: 25.3610 - 42.2620 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Structure component

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

SUBSTANCE NOTES:

UNDISCLOSED

ID: Undisclosed

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2022-04-01 8:33:14

#: 7.9149 - 9.6236 GS: LT-UNK RC: None NANO: No SUBSTANCE ROLE: Blowing agent

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RES	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
RES	EU - GHS (H-Statements) Annex 6 Table 3-1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled [Respiratory sensitization - Category 1]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 7

UNDISCLOSED

ID: Undisclosed

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:21:15**

#: **3.9996 - 7.3854** GS: **LT-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
AQU	US EPA - PPT Chemical Action Plans	Highly toxic to aquatic organisms
PBT	EU - ESIS PBT	Under PBT evaluation
MUL	US EPA - PPT Chemical Action Plans	TSCA Work Plan chemical - ongoing chemical (risk) assessment
PBT	EC - CEPA DSL	Persistent, Bioaccumulative and inherently Toxic (PBiTE) to the Environment (based on aquatic organisms)
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
PBT	EHP - San Antonio Statement on BFRs & CFRs	Flame retardant substance class of concern for PB&T & long range transport
PBT	ChemSec - SIN List	PBT / vPvB (Persistent, Bioaccumulative, & Toxic / very Persistent & very Bioaccumulative)
END	EU - Priority Endocrine Disruptors	Category 1 - In vivo evidence of Endocrine Disruption Activity
PBT	EU - SVHC Authorisation List	PBT - Candidate list
PBT	EU - SVHC Authorisation List	vPvB - Candidate list
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]
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]
DEV	GHS - Korea	H362 - May cause harm to breast-fed children [Reproductive toxicity, effects on or via lactation]
DEV	GHS - Australia	H362 - May cause harm to breast-fed children [Reproductive toxicity, effects on or via lactation]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 2

1-PENTENE, 4-METHYL-, POLYMER WITH ETHENE

ID: 25213-96-1

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-02-09 11:06:44**

#: 1.5715 - 4.2180

GS: NoGS

RC: None

NANO: No

SUBSTANCE ROLE: Structure component

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

ETHENE, POLYMER WITH 1-PROPENE

ID: 9010-79-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2022-02-09 11:05:23			
#: 1.5715 - 4.2180	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Structure component
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
SUBSTANCE NOTES:				

POLYETHYLENE

ID: 9002-88-4

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2022-02-09 11:05:56			
#: 1.5715 - 4.2180	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Structure component
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		
SUBSTANCE NOTES:				

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2022-04-01 8:26:18			
#: 0.8910 - 1.8612	GS: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Structure component
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor		
RES	AOEC - Asthmagens	Asthmagens (Rs) - sensitizer-induced		
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]		

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-1 was provided through the HPD 2.2 Builder Tool. The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 4

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-01 8:24:56	
#: 0.5200 - 3.3500	GS: LT-UNK	RC: None	NANO: No SUBSTANCE ROLE: Structure component
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS	
None found		No warnings found on HPD Priority Hazard Lists	

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 3

UNDISCLOSED ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-01 8:36:27	
#: 0.4559 - 1.0300	GS: LT-P1	RC: None	NANO: No SUBSTANCE ROLE: Accelerator
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS	
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization	
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters	
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H317 - May cause an allergic skin reaction [Skin sensitization - 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]	

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 10

UNDISCLOSED ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-01 8:45:32	
#: 0.3360 - 0.8200	GS: BM-2	RC: None	NANO: No SUBSTANCE ROLE: Absorbent
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS	
None found		No warnings found on HPD Priority Hazard Lists	

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-2 was provided through the HPD 2.2 Builder Tool. The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 13

UNDISCLOSED ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-01 8:34:22	
#: 0.1800 - 0.5100	GS: LT-UNK	RC: None	NANO: No SUBSTANCE ROLE: Curing agent

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 8

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-04-01 8:35:28		
#: 0.1800 - 0.8640	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Activator
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 9

AMMONIUM METAVANADATE

ID: **7803-55-6**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-02-09 11:11:05		
#: 0.1451 - 0.1764	GS: LT-P1	RC: None	NANO: No	SUBSTANCE ROLE: Blowing agent
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters		
GEN	GHS - Japan	H340 - May cause genetic defects [Germ cell mutagenicity - Category 1B]		

SUBSTANCE NOTES:

WATER

ID: **7732-18-5**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-02-09 11:11:55		
#: 0.1451 - 0.1764	GS: BM-4	RC: None	NANO: No	SUBSTANCE ROLE: Solvent
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-4 was provided through the HPD 2.2 Builder Tool.

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2022-02-09 11:02:19		
#: 0.0800 - 0.3500	GS: NoGS	RC: None	NANO: No	SUBSTANCE ROLE: Dispersant

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

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 1

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:42:47**

#: **0.0686 - 0.1200** GS: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Accelerator**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
END	ChemSec - SIN List	Endocrine Disruption
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization
MUL	German FEA - Substances Hazardous to Waters	Class 3 - Severe Hazard to Waters
END	EU - Priority Endocrine Disruptors	Category 1 - In vivo evidence of Endocrine Disruption Activity
GEN	GHS - Japan	H340 - May cause genetic defects [Germ cell mutagenicity - Category 1B]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H317 - May cause an allergic skin reaction [Skin sensitization - Category 1]
EYE	EU - GHS (H-Statements) Annex 6 Table 3-1	H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A]
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]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 12

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:39:23**

#: **0.0491 - 0.1190** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Accelerator**

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

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 11

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 9:02:17**

#: **0.0000 - 0.5600** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
EYE	EU - GHS (H-Statements) Annex 6 Table 3-1	H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 17

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 9:04:12**

#: **0.0000 - 0.1100** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H317 - May cause an allergic skin reaction [Skin sensitization - Category 1]
EYE	EU - GHS (H-Statements) Annex 6 Table 3-1	H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 19

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 9:03:10**

#: **0.0000 - 0.3400** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
SKI	MAK	Sensitizing Substance Sh - Danger of skin sensitization
CAN	IARC	Group 2b - Possibly carcinogenic to humans
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H317 - May cause an allergic skin reaction [Skin sensitization - Category 1]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 18

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 9:01:22**

#: **0.0000 - 0.1368** GS: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

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

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-3dg was provided through the HPD 2.2 Builder Tool. The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 16

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:59:50**

#: **0.0000 - 1.3675** GS: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
DEV	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
DEV	CA EPA - Prop 65	Developmental toxicity
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REP	CA EPA - Prop 65	Reproductive Toxicity - Female
REP	GHS - Japan	H360 - May damage fertility or the unborn child [Toxic to reproduction - Category 1A]
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H304 - May be fatal if swallowed and enters airways [Aspiration hazard - Category 1]
DEV	EU - GHS (H-Statements) Annex 6 Table 3-1	H361d - Suspected of damaging the unborn child [Reproductive toxicity - Category 2]

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-1 was provided through the HPD 2.2 Builder Tool. The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 15

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:46:24**

#: **0.0000 - 2.7350** GS: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
DEV	MAK	Pregnancy Risk Group B
EYE	EU - GHS (H-Statements) Annex 6 Table 3-1	H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2]

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 14

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:31:09**

#: **0.0000 - 0.3500** GS: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Pigment**

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

SUBSTANCE NOTES: The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 6

UNDISCLOSED

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-04-01 8:29:57**

#: **0.0000 - 1.4300** GS: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

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]

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-1 was provided through the HPD 2.2 Builder Tool. The HPDC Approved Preparer obtained full disclosure down to the 1,000 ppm threshold for the trade name ingredient containing this chemical. Due to the proprietary nature of the information, the name and CAS number for this chemical have been redacted from this substance. 5

TITANIUM DIOXIDE

ID: **13463-67-7**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2022-02-09 11:19:37**

#: **0.0000 - 5.0000** GS: **LT-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Pigment**

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]

SUBSTANCE NOTES:

CARBON BLACK

ID: 1333-86-4

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
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

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-1 was provided through the HPD 2.2 Builder Tool.

N-HEXANE

ID: 110-54-3

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
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

HAZARD SCREENING METHOD:	Pharos Chemical and Materials Library	HAZARD SCREENING DATE:	2022-02-09 11:04:49
HAZARD SCREENING METHOD:	Pharos Chemical and Materials Library	HAZARD SCREENING DATE:	2022-02-09 11:04:49
%: 0.0000 - 2.9037	GS: BM-1	RC: None	NANO: No SUBSTANCE ROLE: Structure component

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
END	ChemSec - SIN List	Endocrine Disruption
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
REP	CA EPA - Prop 65	Reproductive Toxicity - Male
SKI	EU - GHS (H-Statements) Annex 6 Table 3-1	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
PHY	EU - GHS (H-Statements) Annex 6 Table 3-1	H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2]
MAM	EU - GHS (H-Statements) Annex 6 Table 3-1	H304 - May be fatal if swallowed and enters airways [Aspiration hazard - Category 1]
AQU	EU - GHS (H-Statements) Annex 6 Table 3-1	H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2]
REP	EU - GHS (H-Statements) Annex 6 Table 3-1	H361f - Suspected of damaging fertility [Reproductive toxicity - Category 2]

SUBSTANCE NOTES: The GreenScreen® Benchmark assessment score of BM-1 was provided through the HPD 2.2 Builder Tool.

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS	UL/GreenGuard Gold Certified		
CERTIFYING PARTY: Third Party APPLICABLE FACILITIES: Sweetwater, TN CERTIFICATE URL: https://spot.ul.com/main-app/products/detail/5ad1ecbc55b0e82d946a8c66?page_type=Products%20Catalog	ISSUE DATE: 2016-07-11	EXPIRY DATE: 2022-11-20	CERTIFIER OR LAB: Sweetwater, TN
CERTIFICATION AND COMPLIANCE NOTES: Certificate # 81047-420 - UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings.			

LCA	Environmental Product Declaration (EPD) by SCS		
CERTIFYING PARTY: Third Party APPLICABLE FACILITIES: Sweetwater, TN CERTIFICATE URL: https://cdn.scscertified.com/products/cert_pdfs/SCS-EPD-07134_Aeroflex-USA_061821.pdf	ISSUE DATE: 2021-06-15	EXPIRY DATE: 2026-06-14	CERTIFIER OR LAB: SCS Global Services
CERTIFICATION AND COMPLIANCE NOTES: Certificate Number: SCS-EPD-07134. This EPD conforms ISO 14025, 14040, 14044, ISO 21930.			

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.

PROTAPE®	HPD URL: https://hpdrepository.hpd-collaborative.org/repository/HPDs/826_Protape_.pdf
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: Protape® is recommended to be applied over glued seams of tubes, sheets & rolls to provide a zero-perm seal for interior and exterior applications.	
AEROSEAL LVOC™ BLACK ADHESIVE	HPD URL: No HPD Available
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: Aerocel® insulation products must always be installed with Aeroseal LVOC™ Black Adhesive to bond and provide a vapor seal to adjoining tubes, sheets or rolls. Aeroseal LVOC™ Black Adhesive is a low-VOC special purpose contact adhesive for bonding Aerocel® insulation to itself and to approved substrates. Meets VOC emissions threshold per CPDH Standard v1.2 and VOC content per SCAQMD Rule 1168. VOC content = 167 g/L.	
AEROCOAT LVOC™ COATING	HPD URL: No HPD Available
CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: Aerocoat LVOC™ Coating is white, low-VOC, water-based coating specially formulated to protect Aerocel® insulation for interior and exterior applications. It provides a decorative finish on interior installations and adds UV protection plus energy code compliance for exterior applications. Meets VOC emissions threshold per CDPH Standard v1.2 and VOC content per SCAQMD Rule 1113. VOC: Content < 50 g/L, Emissions < 50 g/L.	
AEROFIX®	HPD URL: https://hpdrepository.hpd-collaborative.org/repository/HPDs/826_Aerofix_.pdf

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Aerofix® is a patented, closed-cell, lightweight polymeric rigid, high-compressive strength foam insulating pipe support, that is lined with closed-cell EPDM foam rubber, and encased in a zero-perm, weather-proof, corrosion-proof, EPDM polymer membrane with a high-performance pressure-sensitive closure system. Aerofix® is designed to provide a high-strength, load-bearing insulation that will not compress or crush under loads imposed by active piping systems and their contents resting on the insulation material between the pipe and the pipe hanger.

Section 5: General Notes

Aeroflex worked with an HPDC Approved Preparer to confirm that all intentionally added ingredients, residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold. Due to the proprietary nature of the information, the name and CAS number for certain chemicals have been redacted.

The recommended service temperature range for Aerocel® AC is -297°F to +257°F (ULP -320°F), designed for installation above and below ground, interior/exterior applications and is 25/50 rated through 2" thickness. A UV protective finish is recommended for exterior applications. Aerocel insulation products must always be installed with Aeroseal LVOC™ Black Adhesive or Cel-Link II® to seal adjoining tubes, sheets or rolls Aerocel HVAC Refrigeration & Plumbing Insulation. with Protape® as a secondary double-closure system. Applicable CSI sections: 220716, 220719, 230713, 230716, 230719 and 233113. Aerocel products are listed in the following online specification programs: Deltek MasterSpec and BSD SpecLink. Guide specifications are also available at <https://www.aeroflexusa.com/specifications/>

MANUFACTURER INFORMATION

MANUFACTURER: Aeroflex USA
ADDRESS: 282 Industrial Park Road
 Sweetwater TN 37874, USA
WEBSITE: <https://www.aeroflexusa.com>

CONTACT NAME: Mark Sylvester LEED AP BD+C
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PHONE: 928.460.2295
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The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

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

GreenScreen (GS)

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

Recycled Types

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

Other Terms:

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

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.