

SCS Global Services does hereby certify that an independent assessment has been conducted on behalf of:

Aeroflex USA, Inc.

282 Industrial Park Road, Sweetwater, TN, United States

For the following product(s):

HVAC Insulation:

Aerocel® HVAC Refrigeration & Plumbing Insulation

HPD Screening Date: 4/27/2021

Verification #: qGE-11058



The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

Verified Health Product Declaration

This validation conforms to the **Health Product Declaration Open Standard, Version 2.2 (May 18, 2020)**.

Products have a complete, basic method, product threshold HPD and have been validated for health hazard warnings using full disclosure with Special Conditions at an inventory threshold of 1,000 ppm (0.01%).

Registration # SCS-HPD-06674

Valid from: June 14, 2021 to April 27, 2024



A handwritten signature in black ink that reads 'Stanley Mathuram'.

Stanley Mathuram, PE, Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

HPD UNIQUE IDENTIFIER: 25091

CLASSIFICATION: 23 07 19 HVAC Piping Insulation

PRODUCT DESCRIPTION: Aerocel® EPDM closed cell flexible elastomeric foam insulation is available in unslit tubes, Stay-Seal with Protape (Aerocel®-SSPT™) “factory-split” tubes, standard sheets/rolls, sheets/rolls with a factory-applied PSA back and AeroFit™ pipe fitting covers.

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 CHEMICAL LT-UNK | RES **UNDISCLOSED CHEMICAL**
LT-1 | CAN | AQU | END | PBT | MUL | DEV **ETHENE, POLYMER WITH 1-**
PROPENE LT-UNK **POLYETHYLENE** LT-UNK **1-PENTENE, 4-METHYL-,**
POLYMER WITH ETHENE NoGS **UNDISCLOSED CHEMICAL** BM-1 |
 AQU | END | RES | MUL **UNDISCLOSED CHEMICAL** LT-P1 | AQU | SKI |
 MUL **FATTY ACIDS, C16-18** LT-UNK **UNDISCLOSED CHEMICAL** LT-P1
UNDISCLOSED CHEMICAL LT-UNK **UNDISCLOSED CHEMICAL** LT-
UNK | SKI **WATER** BM-4 **UNDISCLOSED CHEMICAL** NoGS
UNDISCLOSED CHEMICAL LT-P1 | AQU | END | SKI | MUL | EYE | GEN
UNDISCLOSED CHEMICAL LT-UNK **UNDISCLOSED CHEMICAL** LT-
UNK **UNDISCLOSED CHEMICAL** BM-2 | RES **UNDISCLOSED**
CHEMICAL LT-1 | CAN | END **UNDISCLOSED CHEMICAL** LT-P1 | END |
 DEV | EYE | PHY **UNDISCLOSED CHEMICAL** BM-1 | END | SKI | DEV |
 MUL | MAM | REP | PHY **UNDISCLOSED CHEMICAL** LT-UNK | CAN
UNDISCLOSED CHEMICAL LT-UNK | EYE | PHY **UNDISCLOSED**
CHEMICAL LT-UNK | SKI | CAN **UNDISCLOSED CHEMICAL** LT-UNK |
 SKI | EYE **CARBON BLACK** BM-1 | CAN **N-HEXANE** BM-1 | END | REP |
 MUL | SKI | AQU | MAM | PHY **UNDISCLOSED CHEMICAL** BM-1 | CAN]

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

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: 2021-06-14
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), ULR® (0.01 perm-inch). 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: 2021-04-27 21:03:16

#: 32.8000 - 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: 2021-04-27 21:03:17

#: 25.3600 - 42.2600 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 CHEMICAL

ID: Undisclosed

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-04-27 21:03:17

#: 7.9100 - 9.6200 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)	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:18**

#: **4.0000 - 7.4600** 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
AQU	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
AQU	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
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
DEV	EU - GHS (H-Statements)	H362 - May cause harm to breast-fed children
END	EU - Priority Endocrine Disruptors	Category 1 - In vivo evidence of Endocrine Disruption Activity
DEV	GHS - Australia	H362 - May cause harm to breast-fed children
DEV	GHS - Korea	H362 - May cause harm to breast-fed children

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.

ETHENE, POLYMER WITH 1-PROPENE

ID: **9010-79-1**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:18**

#: **1.5700 - 4.2200** 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: 2021-04-27 21:03:19
#: 1.5700 - 4.2200	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:		

1-PENTENE, 4-METHYL-, POLYMER WITH ETHENE ID: **25213-96-1**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2021-04-27 21:03:19
#: 1.5700 - 4.2200	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:		

UNDISCLOSED CHEMICAL ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2021-04-27 21:03:20
#: 0.8900 - 1.7900	GS: BM-1	RC: None NANO: No SUBSTANCE ROLE: Structure component
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
AQU	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
AQU	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
RES	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

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

UNDISCLOSED CHEMICAL ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2021-04-27 21:03:21
#: 0.7100 - 1.0300	GS: LT-P1	RC: None NANO: No SUBSTANCE ROLE: Accelerator

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
AQU	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
AQU	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
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)	H317 - May cause an allergic skin reaction

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.

FATTY ACIDS, C16-18

ID: 67701-03-5

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2021-04-27 21:03:21	
%: 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:

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2021-04-27 21:03:22	
%: 0.3400 - 0.8200	GS: LT-P1 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 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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library	HAZARD SCREENING DATE: 2021-04-27 21:03:22	
%: 0.2300 - 0.8600	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.

UNDISCLOSED CHEMICALID: **Undisclosed**HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:23**%: **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)	H315 - Causes skin irritation

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.

WATERID: **7732-18-5**HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:23**%: **0.1500 - 0.1800** GS: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Blowing agent**

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 CHEMICALID: **Undisclosed**HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:24**%: **0.0800 - 0.3500** GS: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Processing regulator**

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

SUBSTANCE NOTES: 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.

UNDISCLOSED CHEMICALID: **Undisclosed**HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:24**%: **0.0800 - 0.1200** GS: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Accelerator**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
AQU	EU - GHS (H-Statements)	H400 - Very toxic to aquatic life
AQU	EU - GHS (H-Statements)	H410 - Very toxic to aquatic life with long lasting effects
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
SKI	EU - GHS (H-Statements)	H315 - Causes skin irritation
EYE	EU - GHS (H-Statements)	H319 - Causes serious eye irritation
SKI	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction
END	EU - Priority Endocrine Disruptors	Category 1 - In vivo evidence of Endocrine Disruption Activity
GEN	GHS - Japan	Germ cell mutagenicity - Category 1B [H340]

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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:24**

#: **0.0500 - 0.1200** 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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:25**

#: **0.0300 - 0.1000** 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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:25**

#: 0.0001 - 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. The GreenScreen® Benchmark assessment score of BM-2 was provided through the HPD 2.2 Builder Tool.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:26**

#: 0.0001 - 5.0000

GS: LT-1

RC: None

NANO: No

SUBSTANCE ROLE: Pigment

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	EU - GHS (H-Statements)	H351 - Suspected of causing cancer
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

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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:27**

#: 0.0001 - 2.7400

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)	H319 - Causes serious eye irritation
PHY	EU - GHS (H-Statements)	H225 - Highly flammable liquid and vapour

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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:27**

#: 0.0001 - 1.3700

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
SKI	EU - GHS (H-Statements)	H315 - Causes skin irritation
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
DEV	EU - GHS (H-Statements)	H361d - Suspected of damaging the unborn child
MAM	EU - GHS (H-Statements)	H304 - May be fatal if swallowed and enters airways
REP	CA EPA - Prop 65	Reproductive Toxicity - Female
REP	GHS - Japan	Toxic to reproduction - Category 1A [H360]
PHY	EU - GHS (H-Statements)	H225 - Highly flammable liquid and vapour

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

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:28**

#: 0.0001 - 0.1400

GS: LT-UNK

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 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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:28**

#: 0.0001 - 0.5600

GS: LT-UNK

RC: None

NANO: No

SUBSTANCE ROLE: Adhesive

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
EYE	EU - GHS (H-Statements)	H319 - Causes serious eye irritation
PHY	EU - GHS (H-Statements)	H225 - Highly flammable liquid and vapour

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.

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

%: **0.0001 - 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)	H315 - Causes skin irritation
SKI	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction

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.

UNDISCLOSED CHEMICALID: **Undisclosed**%: **0.0001 - 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)	H315 - Causes skin irritation
EYE	EU - GHS (H-Statements)	H319 - Causes serious eye irritation
SKI	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction

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.

CARBON BLACKID: **1333-86-4**%: **0.0001 - 3.9400**GS: **BM-1**RC: **None**NANO: **No**SUBSTANCE ROLE: **Pigment**

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-HEXANEID: **110-54-3**

#: 0.0001 - 2.9000

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
REP	EU - GHS (H-Statements)	H361f - Suspected of damaging fertility
MUL	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
SKI	EU - GHS (H-Statements)	H315 - Causes skin irritation
AQU	EU - GHS (H-Statements)	H411 - Toxic to aquatic life with long lasting effects
MUL	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters
MAM	EU - GHS (H-Statements)	H304 - May be fatal if swallowed and enters airways
REP	CA EPA - Prop 65	Reproductive Toxicity - Male
PHY	EU - GHS (H-Statements)	H225 - Highly flammable liquid and vapour

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

UNDISCLOSED CHEMICAL

ID: **Undisclosed**

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2021-04-27 21:03:31**

#: 0.0000 - 1.4300

GS: BM-1

RC: None NANO: No SUBSTANCE ROLE: Structure component

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	GHS - Australia	H350i - May cause cancer by inhalation
CAN	GHS - Japan	Carcinogenicity - Category 1A [H350]

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. 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

ISSUE DATE: 2016-07-

EXPIRY DATE: 2021-

CERTIFIER OR LAB: UL

APPLICABLE FACILITIES: Sweetwater, TN

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11-20

CERTIFICATE URL: <https://spot.ul.com/main-app/products/catalog/?keywords=aeroflex+usa>

CERTIFICATION AND COMPLIANCE NOTES: Certificate # 81047-410 - UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

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://builder.hpd-collaborative.org/actions/builder/11057/record>

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://builder.hpd-collaborative.org/actions/builder/product/8338>

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. 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
hpdrepository.hpd-collaborative.org

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
TITLE: Specification Consultant
PHONE: 928.460.2295
EMAIL: mark.sylvester@aeroflexusa.com

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

KEY

Hazard Types

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

GreenScreen (GS)

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

Recycled Types

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

Other Terms:

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

Inventory Methods:

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

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

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

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

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

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

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