Firefilm IV
by Carboline

Health Product Declaration v2.3

created via: HPDC Online Builder

HPD UNIQUE IDENTIFIER: 20057943040
CLASSIFICATION: 07 81 00 Applied Fire Protection
PRODUCT DESCRIPTION: A decorative thin film intumescent coating designed for the fire protection of interior steel columns for up to a 3 hour fire rating, depending on the design.

Section 1: Summary

Basic 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 Evaluation
- ○ Completed
- ○ Partially Completed
- ◉ Not Completed

Explanation(s) provided :
- ◉ Yes ○ No

For all contents above the threshold, the manufacturer has:

Characterized ◉ Yes ○ No
Provided weight and role.

Screened ○ Yes ◉ No
Provided screening results using HPDC-approved methods.

Identified ○ Yes ◉ No
Provided name and CAS RN or other 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.

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

FIREFILM IV [POLYPHOSPHORIC ACIDS, AMMONIUM SALTS BM-3
WATER BM-4 **TITANIUM DIOXIDE** BM-1 * | CAN | END | MAM **VINYL ESTER TERPOLYMER** Not Screened **PENTAERYTHRITOL** LT-UNK
MELAMINE LT-1 | END | CAN | MAM **CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE** LT-UNK]

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

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

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

None

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

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 4 Regulatory (g/l): 4
Does the product contain exempt VOCs: No
Are colorants available that do not increase the VOC content of the base paint when tinted: N/A

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC emissions: CDPH Standard Method V1.2 (Section 01350/CHPS) - Classroom & Office scenario
VOC content: ILFI Declare - Declared
LCA: Environmental Product Declaration (EPD) by Sustainable Minds

CONSISTENCY WITH OTHER PROGRAMS

No pre-checks completed or disclosed.

Third Party Verified?
- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2024-08-16
PUBLISHED DATE: 2024-10-08
EXPIRY DATE: 2027-08-16

Section 2: Content in Descending Order of Quantity

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

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

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

FIREFILM IV

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: No

RESIDUALS AND IMPURITIES NOTES: Firefilm IV has no known residuals or impurities.

OTHER PRODUCT NOTES: N/A

POLYPHOSPHORIC ACIDS, AMMONIUM SALTS ID: 68333-79-9

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:11**

%: **20.0000 - 40.0000** GreenScreen: **BM-3** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Flame retardant**

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

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials

SUBSTANCE NOTES: Unknown if substance has recycled content

WATER ID: 7732-18-5

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:11**

%: **20.0000 - 40.0000** GreenScreen: **BM-4** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Solvent**

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

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety

SUBSTANCE NOTES: Unknown if substance has recycled content

TITANIUM DIOXIDE

ID: **13463-67-7**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:12**

%: **10.0000 - 25.0000** GreenScreen: **BM-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Pigment**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	US CDC - Occupational Carcinogens	Occupational Carcinogen**
CAN	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route**
CAN	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources**
CAN	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value**
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor**
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels**
CAN	IARC	Group 2b - Possibly carcinogenic to humans**
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]**
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]**
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]**

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Formulated Consumer Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Cosmetics & Personal Care Products
POSITIVE LIST	US Environmental Protection Agency (US EPA)	US EPA - DfE Safer Chemicals Ingredients list (SCIL) Colorants - Green Circle (Verified Low Concern)

SUBSTANCE NOTES: Unknown if substance has recycled content

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

VINYL ESTER TERPOLYMER

ID: **Not Registered**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **Not Screened**

%: **5.0000 - 20.0000** GreenScreen: **Not Screened** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
	Hazard Screening not performed	

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
	Additional Hazard Screening not performed	

SUBSTANCE NOTES: Proprietary

PENTAERYTHRITOL

ID: **115-77-5**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:12**

%: **2.5000 - 10.0000** GreenScreen: **LT-UNK** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Filler**

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

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

SUBSTANCE NOTES: Unknown if substance has recycled content

MELAMINE

ID: **108-78-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:13**

%: **2.5000 - 9.0000** GreenScreen: **LT-1** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Blowing agent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CAN	IARC	Group 2b - Possibly carcinogenic to humans
CAN	EU - GHS (H-Statements) Annex 6 Table 3-1	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
CAN	GHS - Japan	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]
CAN	EU - Annex VI CMRs	Carcinogen Category 2 - Suspected human Carcinogen
CAN	GHS - Australia	H351 - Suspected of causing cancer [Carcinogenicity - Category 2]
END	EU - SVHC List	Equivalent Concern - Candidate List
END	EU - SVHC List	Equivalent Concern - Prioritization List: endocrine disrupting properties cause probable serious effects to the environment or human health

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products

SUBSTANCE NOTES: Unknown if substance has recycled content

CONTINUOUS FILAMENT GLASS FIBER, NON-RESPIRABLE ID: **65997-17-3**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2024-08-16 10:58:13**

%: **0.1000 - 2.5000** GreenScreen: **LT-UNK** RC: **UNK** NANO: **Unknown** SUBSTANCE ROLE: **Filler**

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

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex V listing due to intrinsic safety

SUBSTANCE NOTES: Unknown if substance has recycled content

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: Third Party
APPLICABLE FACILITIES: All
CERTIFICATE URL: https://www.carboline.com/products/product-transparency/

ISSUE DATE: 2019-01-23 00:00:00
EXPIRY DATE:

CERTIFIER OR LAB: Berkeley Analytical

CERTIFICATION AND COMPLIANCE NOTES:

VOC CONTENT — **ILFI Declare - Declared**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: All
CERTIFICATE URL: https://declare.living-future.org/products/firefilm-iv

ISSUE DATE: 2024-04-15 00:00:00
EXPIRY DATE: 2025-05-01 00:00:00

CERTIFIER OR LAB: 3E Exchange

CERTIFICATION AND COMPLIANCE NOTES:

LCA — **Environmental Product Declaration (EPD) by Sustainable Minds**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All
CERTIFICATE URL: https://transparencycatalog.com/company/carboline/showroom/firefilm-iv

ISSUE DATE: 2023-02-13 00:00:00
EXPIRY DATE: 2028-02-12 00:00:00

CERTIFIER OR LAB: Sustainable Minds

CERTIFICATION AND COMPLIANCE NOTES:

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.

No accessories are required for this product.

Section 5: General Notes

A decorative thin film intumescent coating designed for the fire protection of interior steel columns for up to a 3 hour fire rating, depending on the design.

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **Carboline**
ADDRESS: **2150 Schuetz Rd**
St. Louis, Missouri 63026
COUNTRY: **United States**

WEBSITE: **www.carboline.com**
CONTACT NAME: **Jamie Valdez**
TITLE: **Global Product Support Specialist**
PHONE: **314-644-1000**
EMAIL: **sustainability@carboline.com**

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

KEY

Hazard Types

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

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspecified (due to insufficient data)
LT-P1 List Translator Possible 1 (Possible Benchmark-1)
LT-1 List Translator 1 (Likely Benchmark-1)
LT-UNK List Translator Benchmark Unknown
NoGS No GreenScreen.

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

Recycled Types

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

Other Terms:

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

Inventory Methods:

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

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

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

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

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

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

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

for compliance with the HPD standard noted.