Section 1: Summary

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
- Per OSHA MSDS
- Other

Residuals/Impurities
- Considered
- Partially Considered
- Not Considered

Are All Substances Above the Threshold Indicated:
- Considered
- Partially Considered
- Not Considered

Characterized Percent Weight and Role Provided?
- Yes
- No

Screened Using Priority Hazard Lists with Results Disclosed?
- Yes
- No

Identified Name and Identifier Provided?
- Yes
- No

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

ULTIMA HIGH NRC CEILING PANELS | MINERAL WOOL (BIOINSOLUBLE, WITH ALKALINE OXIDE AND ALKALI EARTH OXIDE CONTENT GREATER THAN 18% BY WEIGHT) | LT-UNK | CAN
CELLULOSE PULP | NGGS
STARCH | LT-UNK
KAOLIN CLAY | LT-UNK
LIMESTONE | CAN
CALCIUM CARBONATE | LT-UNK
DOLOMITE | NGGS
TITANIUM DIOXIDE | LT-1
POLY(VINYL ACETATE (PVA) | LT-UNK
FIBERGLASS | LT-UNK
POLY(VINYL ALCOHOL) | LT-UNK
VINYL ACETATE | LT-P1
PH | CAN
ETHYLENE COPOLYMER | NGGS
UNDISCLOSED BM | 2
RES QUARTZ | LT-3
STARCH, PHOSPHATE | LT-UNK
SILICA, AMORPHOUS | LT-P1
PH | CAN
ALUMINA TRIHYDRATE | BM | 2
RES FAT  ACIDS, C16-22 AND C18-UNSATD. (FATTY ACIDS, C16-22 AND C18-UNSATD.) | LT-UNK
PERLITE | LT-UNK

Number of Greenscreen BM-4/BM3 contents........... 0
Contents highest concern GreenScreen Benchmark or List translator Score............... LT-1
Nanomaterial............... No

INVENTORY AND SCREENING NOTES:

Residuals / impurities in select raw materials are quantitatively measured and are displayed in the HPD when greater than 1000ppm.

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: VOC Certificate of Compliance for Ultima High NRC
LCA: Environmental Product Declaration for Ultima High NRC
Other: Declare Label for Ultima High NRC

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients, Option 1

Third Party Verified?
- Yes
- No

PREPARER: Self-Prepared

Screening Date: 2017-09-21
Published Date: 2017-09-21
Expiry Date: 2020-09-21
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 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

ULTIMA HIGH NRC CEILING PANELS

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals / impurities in select raw materials are quantitatively measured and are displayed in the HPD when greater than 1000ppm.

OTHER PRODUCT NOTES: Residuals / impurities in select raw materials are quantitatively measured and are displayed in the HPD when greater than 1000ppm.

MINERAL WOOL (BIOINSOLUBLE, WITH ALKALINE OXIDE AND ALKALI EARTH OXIDE CONTENT GREATER THAN 18 % BY WEIGHT)

%: 40.0000 - 70.0000

GS: LT-UNK

RC: None

NANO: No

ROLE: Core

HAZARDS:

CANCER

EU - R-phrases

R40 - Limited Evidence of Carcinogenic Effects

CANCER

EU - GHS (H-Statements)

H351 - Suspected of causing cancer

SUBSTANCE NOTES: Mineral fiber is not classified as a carcinogen by IARC, NTP, CA Proposition 65 or OSHA. The R40 and H351 phrases below are triggered by a special provision “Note Q”, found only in the EU’s CLP Regulation and for which the applicability to the provided products is neither certain nor adopted by the manufacturer. The world’s leading institute on carcinogen classification, the International Agency for Research on Cancer (IARC) has determined that there is insufficient evidence to classify this material as carcinogenic. The EU’s CLP Regulation focused on creating criteria to characterize biosolubility, but did not provide data to support a causal relationship between the EU test method and actual carcinogenicity.

CELLULOSE PULP

%: 1.0000 - 10.0000

GS: NoGS

RC: None

NANO: No

ROLE: Binder

HAZARDS:

None Found

No warnings found on HPD Priority lists

SUBSTANCE NOTES: None

STARCH

%: 1.0000 - 10.0000

GS: LT-UNK

RC: None

NANO: No

ROLE: Core

HAZARDS:

None Found

No warnings found on HPD Priority lists
<table>
<thead>
<tr>
<th>Substance</th>
<th>%:</th>
<th>GS:</th>
<th>RC:</th>
<th>NANO:</th>
<th>ROLE:</th>
<th>HAZARDS:</th>
<th>AGENCY(IES) WITH WARNINGS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAOLIN CLAY</td>
<td>1.0000 - 10.0000</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>CARCINOGEN</td>
<td>MAK Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
</tr>
<tr>
<td>LIMESTONE; CALCIUM CARBONATE</td>
<td>1.0000 - 5.0000</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>None Found</td>
<td>No warnings found on HPD Priority lists</td>
</tr>
<tr>
<td>DOLOMITE</td>
<td>1.0000 - 5.0000</td>
<td>NoGS</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>None Found</td>
<td>No warnings found on HPD Priority lists</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>1.0000 - 5.0000</td>
<td>LT-1</td>
<td>None</td>
<td>No</td>
<td>Pigment</td>
<td>US CDC - Occupational Carcinogens Occupational Carcinogen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CA EPA - Prop 65 Carcinogen - specific to chemical form or exposure route</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IARC Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TEDX - Potential Endocrine Disruptors Potential Endocrine Disruptor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MAK Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value</td>
<td></td>
</tr>
</tbody>
</table>
SUBSTANCE NOTES: Titanium Dioxide is bound within the coating and is not inhalable. Accordingly, it is excluded from regulatory hazard lists. It is not in a respirable form in the final product.

POLYVINYL ACETATE (PVA)  
**ID:** 9003-20-7  
**%:** 0.1000 - 1.0000  
**GS:** LT-UNK  
**RC:** None  
**NANO:** No  
**ROLE:** Binder  

**HAZARDS:**  
None Found  
No warnings found on HPD Priority lists

**SUBSTANCE NOTES:** None

FIBERGLASS  
**ID:** 65997-17-3  
**%:** 0.1000 - 5.0000  
**GS:** LT-UNK  
**RC:** None  
**NANO:** No  
**ROLE:** Fiber Core  

**HAZARDS:**  
CANCER  
EU - R-phrases  
R40 - Limited Evidence of Carcinogenic Effects  
CANCER  
EU - GHS (H-Statements)  
H351 - Suspected of causing cancer

**SUBSTANCE NOTES:** None

POLY(VINYL ALCOHOL)  
**ID:** 9002-89-5  
**%:** 0.1000 - 1.0000  
**GS:** LT-UNK  
**RC:** None  
**NANO:** No  
**ROLE:** Binder  

**HAZARDS:**  
None Found  
No warnings found on HPD Priority lists

**SUBSTANCE NOTES:** None

VINYL ACETATE  
**ID:** 108-05-4  
**%:** 0.1000 - 5.0000  
**GS:** LT-P1  
**RC:** None  
**NANO:** No  
**ROLE:** Adhesive  

**HAZARDS:**  
CANCER  
IARC  
Group 2b - Possibly carcinogenic to humans  
CANCER  
EU - GHS (H-Statements)  
H351 - Suspected of causing cancer  
ENDOCRINE  
TEDX - Potential Endocrine Disruptors  
Potential Endocrine Disruptor  
MULTIPLE  
German FEA - Substances Hazardous to Waters  
Class 2 - Hazard to Waters  
CANCER  
MAK  
Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
<table>
<thead>
<tr>
<th>Substance</th>
<th>ID</th>
<th>Percentage</th>
<th>GB</th>
<th>RC</th>
<th>NANO</th>
<th>Role</th>
<th>HA ZARDS:</th>
<th>SUBSTANCE NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYLENE COPOLYMER</td>
<td>26713-18-8</td>
<td>0.1000 - 5.0000</td>
<td>NoGS</td>
<td>None</td>
<td>No</td>
<td>Binder</td>
<td>None found</td>
<td>None</td>
</tr>
<tr>
<td>UNDISCLOSED</td>
<td>14808-60-7</td>
<td>0.1000 - 0.2000</td>
<td>BM-2</td>
<td>None</td>
<td>No</td>
<td>Fire Retardant</td>
<td>Respiratory: Asthmagen (ARs) - sensitizer-induced - inhalable forms only</td>
<td>This ingredient has been screened against all HPD v 2.0 Priority Lists</td>
</tr>
<tr>
<td>QUARTZ</td>
<td>13463-68-1</td>
<td>0.0100 - 5.0000</td>
<td>LT-1</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>None found</td>
<td>Since Quartz is bound within the coating and not inhalable, it is excluded from regulatory hazard lists. It is not in a respirable form in the final product.</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**
- None

**SUBSTANCE NOTES:**
- This ingredient has been screened against all HPD v 2.0 Priority Lists

**SUBSTANCE NOTES:**
- Since Quartz is bound within the coating and not inhalable, it is excluded from regulatory hazard lists. It is not in a respirable form in the final product.
<table>
<thead>
<tr>
<th>Substance</th>
<th>ID</th>
<th>% Range</th>
<th>GS</th>
<th>RC</th>
<th>NANO</th>
<th>Role</th>
<th>Hazards</th>
<th>Agency(ies) with warnings</th>
<th>Substance Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch, Phosphate</td>
<td>11120-02-8</td>
<td>0.0100 - 1.0000</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Binder</td>
<td>None</td>
<td>None Found</td>
<td>None</td>
</tr>
<tr>
<td>Silica, Amorphous</td>
<td>7631-86-9</td>
<td>0.0100 - 1.0000</td>
<td>LT-P1</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>Cancer, Japan - GHS</td>
<td>Carcinogenicity - Category 1A</td>
<td>None</td>
</tr>
<tr>
<td>Alumina Trihydrate</td>
<td>21645-51-2</td>
<td>0.0100 - 1.0000</td>
<td>BM-2</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>Respiratory, AOEC - Asthmagens</td>
<td>Asthmagen (ARs) - sensitiser-induced - inhalable forms only</td>
<td>None</td>
</tr>
<tr>
<td>Fatty Acids, C16-22 and C18-unsatd.</td>
<td>68424-13-5</td>
<td>0.0100 - 1.0000</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Sufactant</td>
<td>None Found</td>
<td>No warnings found on HPD Priority lists</td>
<td>None</td>
</tr>
<tr>
<td>Perlite</td>
<td>93763-70-3</td>
<td>0.0000 - 25.0000</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Filler</td>
<td>None Found</td>
<td>No warnings found on HPD Priority lists</td>
<td>None</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Third Party</th>
</tr>
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<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>All</td>
</tr>
<tr>
<td>ISSUE DATE:</td>
<td>2016-07-20</td>
</tr>
<tr>
<td>EXPIRY DATE:</td>
<td>2018-07-20</td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>Berkeley Analytical</td>
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</tbody>
</table>

Environmental Product Declaration for Ultima High NRC

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Third Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>All</td>
</tr>
<tr>
<td>ISSUE DATE:</td>
<td>2016-03-31</td>
</tr>
<tr>
<td>EXPIRY DATE:</td>
<td>2020-03-31</td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>UL Environment</td>
</tr>
</tbody>
</table>

Declare Label for Ultima High NRC

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Third Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>All</td>
</tr>
<tr>
<td>CERTIFICATE URL:</td>
<td><a href="https://access.livingfuture.org/ultima%C2%AE-high-nrc-ceiling-panels">https://access.livingfuture.org/ultima%C2%AE-high-nrc-ceiling-panels</a></td>
</tr>
<tr>
<td>ISSUE DATE:</td>
<td>2017-04-01</td>
</tr>
<tr>
<td>EXPIRY DATE:</td>
<td>2018-04-01</td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>ILFI</td>
</tr>
</tbody>
</table>

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.

ARMSTRONG SUSPENSION SYSTEMS


CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:
Can be installed with Armstrong Suspension Systems
Section 5: General Notes

This HPD is provided solely for the intended recipient in connection with its assessment of products and for no other purpose. In providing information, Armstrong World Industries expresses no opinion and makes no representations as to the applicability, suitability, accuracy or completeness of the declaration form, or the standards, rules, classifications, warnings or criteria utilized or referenced therein. Information provided herein is qualified in the entirety by reference to the applicable product Safety Data Sheet (SDS) which can be located at www.armstrongceilings.com, as well as by the additional ingredient information provided for specified substances. For more information on this product visit https://www.armstrongceilings.com/commercial/en-us/commercial-ceilings-walls/ultima-high-nrc-ceiling-tiles.html

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: Armstrong World Industries
ADDRESS: 2500 Columbia Avenue
Lancaster PA 17603, USA
WEBSITE: www.armstrongceilings.com

CONTACT NAME: Armstrong Technical Services
TITLE: Techline
PHONE: 1-877-276-7876
EMAIL: techline@armstrongceilings.com

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation

GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic

PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

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 (insufficient data to benchmark)

LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Armstrong Commercial Ceilings Ultima High NRC
www.hpd-collaborative.org
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.