Liquid Nanotint ® by Drywired, LLC

CLASSIFICATION: 088700

PRODUCT DESCRIPTION: DRYWIRED LIQUID NANOTINT® IS A THERMAL INSULATION COATING IDEAL FOR SINGLE-PANE GLASS AND POLYCARBONATE SURFACES. APPLIED LIKE A PAINT, LIQUID NANOTINT® IS CAPABLE OF BLOCKING 100% OF ULTRAVIOLET (UV) RAYS, UP TO 95% OF INFRARED (IR) RAYS AND MAINTAINING UP TO 80% VISIBLE LIGHT TRANSMISSION (VLT). THROUGH THE COMBINATION OF SOLVENT BORNE METAL-OXIDE NANO-PARTICLES AND AN INORGANIC ADHESIVE BINDER, LIQUID NANOTINT® FORMS A 10 MICRON THICK SELF-LEVELING CLEAR COAT THAT BONDS DIRECTLY TO GLASS AND POLYCARBONATE SURFACES.

Health Product Declaration v2.0

created via: HPDC Online Builder

Section 1: Summary

CONTENT INVENTORY

Threshold per material
- ○ 100 ppm
- ◉ 1,000 ppm
- ○ Per GHS SDS
- ○ Per OSHA MSDS
- ○ Other

Residuals and impurities considered in 0 of 2 materials
- ◉ see Section 2: Material Notes
- ◉ see Section 5: General Notes

Based on the selected Content Inventory Threshold:

Characterized.....	◉	○
Are the Percent Weight and Role provided for all substances?	Yes	No
Screened.....	◉	○
Are all substances screened using Priority Hazard Lists with results disclosed?	Yes	No
Identified.....	◉	○
Are all substances disclosed by Name (Specific or Generic) and Identifier?	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

NANOTINT [POLYMETHYL METHACRYLATE (PMMA) LT-UNK | RES BUTYL ACETATE LT-UNK PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE (PMA) LT-UNK 2-BUTOXYETHYL ACETATE LT-UNK | MAM | CAN 2-(2'-HYDROXY-5'-METHYLPHENYL)BENZOTRIAZOLE LT-UNK DICESIUM;DIOXIDO(DIOXO)TUNGSTEN UNK DIINDIUM TRIOXIDE LT-UNK TIN OXIDE LT-UNK] LNT HARDENER [HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER (HDI HOMOPOLYMER) LT-UNK DBE-5 DIBASIC ESTER UNK | MAM | SKI | EYE]

Number of Greenscreen BM-4/BM3 contents..... 0

Contents highest concern GreenScreen Benchmark or List translator Score..... LT-UNK

Nanomaterial..... Yes

INVENTORY AND SCREENING NOTES:

Residuals and impurities were not considered because their content falls below the content threshold. Health hazard and warnings screening was reported according to material and substance MSDS.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 352 Regulatory (g/l): 636

Does the product contain exempt VOCs: Yes

Are ultra-low VOC tints available: N/A

CERTIFICATIONS AND COMPLIANCE

VOC emissions: VOC Emissions per GC-FID-MS profiling

See Section 3 for additional listings.

◉ Self-Published* VERIFIER: SCREENING DATE: December 17, 2016 EXPIRY DATE*: December 19, 2019

○ Third Party Verified VERIFICATION #: RELEASE DATE: December 19, 2016 * or within 3 months of significant change in product contents

See HPDC website for details

Section 2: Content in Descending Order of Quantity

This section lists materials in a product and the substances in each material based on the Inventory Threshold for each material. If residuals or impurities from the manufacturing or extraction processes are considered for a material, these are inventoried and characterized to the extent described in the Material and/or General Notes. Chemical substances are screened against the HPD Priority Hazard Lists for human and environmental health impacts. Screening is based on best available information; "Not Found" does not necessarily mean there is no potential hazard associated with the product or its contents. More information about Priority Hazard Lists and the GreenScreen can be found online: www.hpd-collaborative.org and www.greenscreenchemicals.org.

NANOTINT **%: 90.0000** **HPD URL:**

Inventory Threshold: 1000 ppm Residuals Considered: No

Material Notes: Residuals and impurities fall below inventory threshold

POLYMETHYL METHACRYLATE (PMMA) ID: 9011-14-7

%: 23.0000 - 35.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: Adhesion

HAZARDS:	**AGENCY(IES) WITH WARNINGS:**
RESPIRATORY AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced

SUBSTANCE NOTES: Range, amount varies over time

BUTYL ACETATE ID: 123-86-4

%: 23.0000 - 35.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: Solvent

HAZARDS:	**AGENCY(IES) WITH WARNINGS:**
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Percentage range due to batch variation

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE (PMA) ID: 108-65-6

%: 19.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: Solvent

HAZARDS:	**AGENCY(IES) WITH WARNINGS:**
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES:

2-BUTOXYETHYL ACETATE ID: 112-07-2

%: 10.0000 - 20.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: Solvent

HAZARDS:		AGENCY(IES) WITH WARNINGS:
MAMMALIAN	EU - R-phrases	R20 - Harmful by Inhalation (gas or vapor or dust/mist)
MAMMALIAN	EU - R-phrases	R21 - Harmful in Contact with Skin
CANCER	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

SUBSTANCE NOTES: Percentage range due to batch variation

2-(2'-HYDROXY-5'-METHYLPHENYL)BENZOTRIAZOLE ID: 2440-22-4

%: 7.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: UV absorber

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES:

DICESIUM;DIOXIDO(DIOXO)TUNGSTEN ID: 52350-17-1

%: 4.0000 - 4.0000	GS: UNK	RC: None	NANO: YES	ROLE: IR absorber

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Range, amount varies over time

DIINDIUM TRIOXIDE ID: 1312-43-2

%: 1.0000 - 1.0000	GS: LT-UNK	RC: None	NANO: YES	ROLE: IR absorber

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Range, amount varies over time

TIN OXIDE ID: 18282-10-5

%: 0.2000 - 0.2000	GS: LT-UNK	RC: None	NANO: YES	ROLE: IR absorber

HAZARDS:	AGENCY(IES) WITH WARNINGS:

None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Range, amount varies over time

LNT HARDENER **%: 10.0000** **HPD URL:**
Inventory Threshold: 1000 ppm Residuals Considered: No
Material Notes: Residuals and impurities fall below inventory threshold

HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER (HDI HOMOPOLYMER) ID: 28182-81-2

%: 75.0000 - 85.0000	GS: LT-UNK	RC: None	NANO: NO	ROLE: Hardening polymer

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: Percentage range due to batch variation

DBE-5 DIBASIC ESTER ID: 1119-40-0

%: 15.0000 - 25.0000	GS: UNK	RC: None	NANO: NO	ROLE: Solvent

HAZARDS:		AGENCY(IES) WITH WARNINGS:
MAMMALIAN	EU - R-phrases	R20 - Harmful by Inhalation (gas or vapor or dust/mist)
SKIN IRRITATION	EU - R-phrases	R38 - Irritating to skin
EYE IRRITATION	EU - GHS (H-Statements)	H319 - Causes serious eye irritation

SUBSTANCE NOTES: Percentage range due to batch variation

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
CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All
CERTIFICATE URL: https://drywired.box.com/s/m74lgtpb1wl0qfve0xrpgw81dtpkpnmv
CERTIFICATION AND COMPLIANCE NOTES: Testing conducted to demonstrate that the cured Liquid Nanotint coating does not off-gas any VOC emissions.

VOC Emissions per GC-FID-MS profiling

ISSUE DATE:	EXPIRY DATE:	CERTIFIER OR LAB:
2015-06-17	0000-00-00	Avomeen Analytical Services

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.

LNT GLASS PRIMER	**HPD URL: https://hpdrepository.hpd-collaborative.org/repository/HPDs/publish_198_LNT_Glass_Primer_1482190386.pdf**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES: For all installations where superhydrophilic effect is not already observed on glass surface

Section 5: General Notes

Residuals and impurities not considered because they fall below content thresholds.

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: Drywired, LLC

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KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classi cation 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 Unspeci ed (insu cient 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)
UNK 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

Nano Composed of nanoscale particles or nanotechnology

Declaration Level

Self-declared Manufacturer's self-declaration (First Party)
Independent Lab Manufacturer's self-declaration using results from an independent lab
Second Party Verification by trade association or other interested party
Third Party Verification by independent certifier
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 does not provide an assessment of health impacts throughout the product life cycle. It does not provide an assessment of exposure or risk associated with product handling or use. It also does not address potential health impacts of: (i) substances used or created during the manufacturing process unless they remain in the nal product, or (ii) substances created after the product is delivered for end use (e.g., if the product burns, degrades, or otherwise changes chemical composition).

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

A disclosure completed in compliance with the HPD Open Standard is referred to as a "Health Product Declaration," or "HPD." The product manufacturer and any applicable independent veri er are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD Open Standard noted.