HI-MACS® Acrylic Solid Surface by LG Hausys America, Inc.

Health Product Declaration v2.1

created via: HPDC Online Builder

CLASSIFICATION: 06 61 00 Wood, Plastics, and Composites; 06 61 16 Solid Surfacing Fabrications; 09 77 00 Special Wall Surfacing; 12 36 61.16 Solid Surfacing Countertops

PRODUCT DESCRIPTION: HI-MACS® acrylic solid surface is a homogeneous, non-porous decorative surfacing material manufactured in solid 12 mm, 9 mm, and 6 mm thick sheets for horizontal and vertical applications, and in various shapes as sinks and lavatory bowls.HI-MACS is NSF/ANSI 51 Certified for "All Food Contact Types". HI-MACS® is composed of natural minerals (primarily alumina trihydrate [ATH]) from bauxite, and acrylic resin (methyl methacrylate [MMA]) and polymethyl methacrylate [PMMA]). HI-MACS® is non-toxic and non-allergenic. HI-MACS® is rated "Class 'A'" using the ASTM E84 flammability test, and is Greenguard and Greenguard Gold certified as a Low VOC material.

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
- ○ Per OSHA MSDS
- ○ Other

Residuals/Impurities
- ◉ Considered
- ○ Partially Considered
- ○ Not Considered

Explanation(s) provided for Residuals/Impurities?
- ◉ Yes ○ No

Are All Substances Above the Threshold Indicated:

Characterized ◉ Yes ○ No
Percent Weight and Role Provided?

Screened ◉ Yes ○ No
Using Priority Hazard Lists with Results Disclosed?

Identified ○ Yes ◉ No
Name and Identifier Provided?

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

HI-MACS® ACRYLIC SOLID SURFACE [ALUMINA TRIHYDRATE BM-2 | RES METHYL METHACRYLATE LT-P1 | RES | PHY | SKI | END POLYMETHYL METHACRYLATE (PMMA) LT-P1 | RES TITANIUM DIOXIDE LT-1 | CAN | END CARBON BLACK LT-1 | CAN 5,12-DIHYDROQUINO(2,3-B)ACRIDINE-7,14-DIONE LT-UNK BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE LT-UNK UNDISCLOSED LT-UNK | SKI UNDISCLOSED LT-P1 | MUL UNDISCLOSED LT-P1 | MUL UNDISCLOSED NoGS BIS(2-ETHYLHEXYL) TEREPHTHALATE BM-3]

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

Contents highest concern GreenScreen Benchmark or List translator Score ... LT-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Substances' are listed as percentage of weight.

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: GreenGuard - Gold (previously Children & Schools)
LCA: Environmental Product Declaration (EPD) by NSF
Recycled content: SCS Recycled Content Certification - Recycling Programs

CONSISTENCY WITH OTHER PROGRAMS

No pre-checks completed or disclosed.

Third Party Verified?
- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2018-10-09
PUBLISHED DATE:
EXPIRY DATE: 2021-10-09

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

HI-MACS® ACRYLIC SOLID SURFACE

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: HI-MACS® solid surface sheet and shape products are manufactured using inert mineral fillers, monomers and resins in combination with colorants. In its finished form it is an encapsulated material that is nontoxic and nonallergenic for humans.

OTHER PRODUCT NOTES: HI-MACS® acrylic solid surface is composed of natural minerals (primarily alumina trihydrate [ATH]), acrylic resin (methyl methacrylate [MMA]), and polymethyl methacrylate [PMMA]). HI-MACS® "Eden Plus"-series products Harmony, Pause, Ripe Cotton, Pebble Pearl, Oatmeal, Simplicity, Rest, Relieve,Lemon Grass, Portland, and Saddlebow contain 6% pre-consumer recycled content; Honeysuckle contains 10% recycled content. Recycled content is from trimmings and/or off-spec material.

ALUMINA TRIHYDRATE

ID: 21645-51-2

%: 45.0000 - 70.0000 GS: BM-2 RC: None NANO: No ROLE: Inert Filler

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

SUBSTANCE NOTES: Synonyms for Alumina Trihydrate, include ATH, Aluminum Trihydrate, Aluminum Trihydroxide, Alumina Hydroxide. ATH is a non-toxic, non-halogen fire retardant and smoke suppressant, chemically inert, filler material. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

METHYL METHACRYLATE

ID: 80-62-6

%: 20.0000 - 35.0000 GS: LT-P1 RC: None NANO: No ROLE: Acrylic resin binder

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
PHYSICAL HAZARD (REACTIVE)	EU - GHS (H-Statements)	H225 - Highly flammable liquid and vapour
SKIN IRRITATION	EU - GHS (H-Statements)	H315 - Causes skin irritation
SKIN SENSITIZE	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
SKIN SENSITIZE	MAK	Sensitizing Substance Sh - Danger of skin sensitization

SUBSTANCE NOTES: Methyl methacrylate (MMA) is a polymerizable monomer that is widely used in the manufacture of methacrylate resins and plastic cast sheet for glazing, building panels, bathroom fixtures, and medical prosthetic devices.Methyl methacrylate (MMA) is an organic compound. This colorless liquid is a monomer produced on a large scale for the production of poly(methyl methacrylate) (PMMA) In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

POLYMETHYL METHACRYLATE (PMMA)

ID: 9011-14-7

%: 0.0000 - 15.0000 GS: LT-P1 RC: None NANO: No ROLE: Polymer

HAZARDS:	AGENCY(IES) WITH WARNINGS:	

RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced

SUBSTANCE NOTES: PMMA is a non-linked polymer component in acrylic solid surface material. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

TITANIUM DIOXIDE

ID: 13463-67-7

%: 0.0000 - 3.0000 GS: LT-1 RC: None NANO: No ROLE: Colorant

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor
CANCER	MAK	Carcinogen Group 3A - Evidence of carcinogenic effects but not sufficient to establish MAK/BAT value
CANCER	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels

SUBSTANCE NOTES: Titanium dioxide is carried in BIS(2-Ethylhexyl) Terephthalate, also described as DOTP (Dioctyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respiable dust hazards of the colorants. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

CARBON BLACK

ID: 1333-86-4

%: 0.0000 - 3.0000 GS: LT-1 RC: None NANO: No ROLE: Colorant

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
CANCER	US CDC - Occupational Carcinogens	Occupational Carcinogen
CANCER	CA EPA - Prop 65	Carcinogen - specific to chemical form or exposure route
CANCER	IARC	Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
CANCER	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES: Carbon Black is carried in BIS(2-Ethylhexyl) Terephthalate, also described as DOTP (Dioctyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respiable dust hazards of the colorants. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

5,12-DIHYDROQUINO(2,3-B)ACRIDINE-7,14-DIONE

ID: 1047-16-1

%: 0.0000 - 3.0000 GS: LT-UNK RC: None NANO: No ROLE: Colorant

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

SUBSTANCE NOTES: Also known as Quinacridone it is carried in BIS(2-Ethylhexyl) Terephthalate, also described as DOTP (Dioctyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respiable dust hazards of the colorants. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE

ID: 106276-80-6

%: **0.0000 - 3.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Colorant**

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

SUBSTANCE NOTES: Benzoic acid is carried in BIS(2-Ethylhexyl) Terephthalate, also described as DOTP (Dioctyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respiable dust hazards of the colorants. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

UNDISCLOSED

%: **0.0000 - 2.0000** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Cross-linking agent**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
SKIN SENSITIZE	EU - GHS (H-Statements)	H317 - May cause an allergic skin reaction
SKIN SENSITIZE	MAK	Sensitizing Substance Sh - Danger of skin sensitization

SUBSTANCE NOTES: Cross-linking agents facilitate the interconnection of substances to form a uniform material blend. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

UNDISCLOSED

%: **0.0000 - 0.5000** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Curing Agent**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: When curing agents activate they facilitate reactions as a part of the acrylic resin. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

UNDISCLOSED

%: **0.0000 - 0.5000** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Curing Agent**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: When curing agents activate they facilitate reactions as a part of the acrylic resin. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

UNDISCLOSED

%: **0.0000 - 0.5000** GS: **NoGS** RC: **None** NANO: **No** ROLE: **Curing Agent**

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

SUBSTANCE NOTES: When curing agents activate they facilitate reactions as a part of the acrylic resin. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

BIS(2-ETHYLHEXYL) TEREPHTHALATE

ID: **6422-86-2**

%: **0.0000 - 1.0000** GS: **BM-3** RC: **None** NANO: **No** ROLE: **Additive for colorant**

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

SUBSTANCE NOTES: Colorant additives enhance color and are carried in BIS(2-Ethylhexyl) Terephthalate, also described as DOTP (Dioctyl Terephthalate), is a common carrier for colorants. The use of DOTP delivers pigment dispersion including titanium dioxide and carbon black. It also reduces the respirable dust hazards of these colorants. It is an environmentally friendly phthalate-free carrier. In its manufactured form HI-MACS® is non-toxic and non-allergenic to humans.

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 — **GreenGuard - Gold (previously Children & Schools)**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All.
CERTIFICATE URL: http://www.lghimacsusa.com/content/com.LG.file_depot.FileDepotFile/915/GREENGUARD_Gold_Certification_HI-MACS.pdf

ISSUE DATE: 2007-08-13 | EXPIRY DATE: 2019-08-13 | CERTIFIER OR LAB: UL Environment

CERTIFICATION AND COMPLIANCE NOTES: Cert #4007-420, UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

LCA — **Environmental Product Declaration (EPD) by NSF**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All
CERTIFICATE URL: http://info.nsf.org/Certified/Sustain/ProdCert/EPD10096.pdf

ISSUE DATE: 2017-04-07 | EXPIRY DATE: 2022-04-06 | CERTIFIER OR LAB: NSF International

CERTIFICATION AND COMPLIANCE NOTES: Declaration # EPD10096

RECYCLED CONTENT — **SCS Recycled Content Certification - Recycling Programs**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: All
CERTIFICATE URL: https://www.scsglobalservices.com/certified-green-products-guide

ISSUE DATE: 2018-02-01 | EXPIRY DATE: 2019-01-31 | CERTIFIER OR LAB: SCS Global Services

CERTIFICATION AND COMPLIANCE NOTES: HI-MACS Eden Collection products Awaken, Balance, Barley, Enchantment, Energy, Essence, Focus, Harmony, Imagination, Loyalty, Mature, Natural, Oatmeal, Poppy Seed, Pause, Pebble Pearl, Pearl White, Portland, Profound, Rest, Relieve, Saddlebow, Sand, Serenity, Silence, Simplicity, Stable, Tranquility, and Understanding are Certified to contain not less than 6% pre-consumer recycled content under SCS-MC-02807. HI-MACS Eden Collection products Cocoa, Honeysuckle, Ivy, Lemongrass, and Ripe Cotton are Certified to contain not less than 10% pre-consumer recycled content under SCS-MC-01491. HI-MACS Eden Collection products Birch Bark,Chestnut, Hickory, Mountain Ash, Pecan, Poplar, Sugar Maple and Walnut are Certified to contain not less than 35% pre-consumer recycled content under SCS-MC-02322.

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.

LG ADHESIVE — HPD URL: **No HPD Available**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:
LG Adhesive, also called LG Joint Adhesive, is used to created inconspicuous seams when HI-MACS® materials are joined together to create larger or multi-plane designs. LG Adhesive is Greenguard Gold Certified for Low Chemical Emissions using the generally accepted UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes, and Furnishings. LG Adhesive is a two-part product available in 250 ml and 500 ml containers for manual or pneumatic dispensers.

Section 5: General Notes

HI-MACS® acrylic solid surface is Greenguard and Greenguard Gold Certified for Low VOC Emissions using the generally accepted UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes, and Furnishings (Certificate #4007-410). HI-MACS® complies with California Department of Public Health (CDPH) Standard Method V1.2-2017 using and Office and Classroom Environment. Additional product and environmental information for possible LEED v4 MR Credit, Building Peoduct Disclosure and Optimization - Environmental Product Declarations can be found in the HI-MACS® Environmental Product Declaration (EPD) #EPD10096 available at http://info.nsf.org/Certified/Sustain/ProdCert/EPD10096.pdf . HI-MACS® acrylic solid surface fabrications may also be found in the following Sections: 09 77 00 Special Wall Surfacing, 09 78 26 Plastic Interior Wall Paneling, 10 21 13.19 Plastic Toilet Compartments, 10 21 16.19 Plastic Shower and Dressing Compartments, 10 25 13 Patient Bed Service Walls, 12 26 23 Protective Wall Covering, 10 51 23 Plastic Lockers, 12 34 00 Manufactured Plastic Casework, 12 35 00 Specialty Casework, 12 36 00 Countertops. 12 36 61.12 Solid Surfacing Countertops

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **LG Hausys America, Inc.**
ADDRESS: **900 Circle 75 Parkway #1500**
Atlanta GA 30339, United States
WEBSITE: **http://www.lghimacsusa.com/**

CONTACT NAME: **Richard Rudy**
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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 (insuficient 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
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.