

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 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?

Threshold Disclosed Per

- Material
- Product

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
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HAZARDS: AGENCY(IES) WITH WARNINGS:

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

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

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

HAZARDS:	AGENCY(IES) WITH WARNINGS:			
%: 0.0000 - 3.0000	GS: LT-1	RC: None	NANO: No	ROLE: Colorant
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 (Diethyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respirable 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

HAZARDS:	AGENCY(IES) WITH WARNINGS:			
%: 0.0000 - 3.0000	GS: LT-1	RC: None	NANO: No	ROLE: Colorant
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 (Diethyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respirable 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

HAZARDS:	AGENCY(IES) WITH WARNINGS:			
%: 0.0000 - 3.0000	GS: LT-UNK	RC: None	NANO: No	ROLE: Colorant
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 (Diethyl Terephthalate), an environmentally friendly phthalate-free carrier which is used to reduce or eliminate respirable 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 respirable 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**

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 (Diocetyl 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:	EXPIRY DATE:	CERTIFIER OR LAB:
2007-08-13	2019-08-13	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:	EXPIRY DATE:	CERTIFIER OR LAB:
2017-04-07	2022-04-06	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:	EXPIRY DATE:	CERTIFIER OR LAB:
2018-02-01	2019-01-31	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 create 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 Product 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

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**
TITLE: **Technical Services Manager**
PHONE: **6785354116**
EMAIL: **rrudy@lghausys.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	GLO Global warming	PHY Physical Hazard (reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive toxicity
DEV Developmental toxicity	MUL Multiple hazards	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	OZO Ozone depletion	LAN Land Toxicity
GEN Gene mutation	PBT Persistent Bioaccumulative Toxic	NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-P1 List Translator Possible Benchmark 1
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-1 List Translator Likely Benchmark 1
BM-2 Benchmark 2 (use but search for safer substitutes)	LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
BM-1 Benchmark 1 (avoid - chemical of high concern)	NoGS Unknown (no data on List Translator Lists)
BM-U Benchmark Unspecified (insufficient data to benchmark)	

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.