



USG Astro® Acoustical Panels

Manufactured by USG Interiors, LLC

This product transparency report summarizes the environmental performance and chemical inventory of the ingredients in USG Astro®, Astro® Illusion, and Astro® Firecode™ Acoustical Panels for building professionals and those seeking to understand the product's life-cycle impacts. The data presented in this document may be helpful for obtaining LEED® v4 credits.

SUSTAINABILITY DATA

Corporate Sustainability Report	Available at www.usg.com/sustainability	Certifications:
Low VOC Emissions	CDPH 01350 v1.1-2010 compliant	 
Total VOCs After 14 days	0.5 mg/m ³ or less	
VOC Content	Not applicable	
Rapid Renewing Materials	3.2 – 3.3%	






REGIONAL MATERIALS & RECYCLED CONTENT

Manufacturing Plant	Product	Raw materials ≤500 miles	Raw materials ≤100 miles	Pre-Consumer recycled content	Post-Consumer recycled content
Cloquet, MN	Astro®	83.0%	6.4%	68.1%	0.0%
	Astro® Illusion	84.3%	6.5%	69.4%	0.0%
	Astro® Firecode™	84.9%	6.5%	68.8%	0.0%

Pre and Post-Consumer recycled content as defined by the Federal Trade Commission.

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Data shown below is based on the Astro® product cradle-to-grave LCA results other Astro® products are available on usg.com. Environmental impacts per one square foot (12" x 12") ceiling panel.

ATMOSPHERE			WATER		PRIMARY ENERGY/SERVICE LIFE/END OF LIFE
					Primary Energy: 13.1 MJ Assumed Service Life: Life of building with minor repair and standard maintenance. End of Life Use: While USG encourages recycling of its ceiling panels through its take back program, all ceiling panel waste generated during installation and at end-of-life is assumed to be disposed of in an appropriate landfill. 3rd Party Certified by UL Environment
Global Warming Potential	Ozone Depletion Potential	Photochemical Ozone Creation Potential	Acidification Potential	Eutrophication Potential	
0.649 kg CO ₂ eq	6.87E-09 kg CFC-11 eq	2.74E-04 g NO _x eq	9.93E-02 H ⁺ moles eq	1.26E-04 kg N eq	

PRODUCT ATTRIBUTE REPORT


Transparency Declaration

USG Astro® Acoustical Panels

HEALTH PRODUCT TRANSPARENCY - LEEDv4 Qualification MR Credit: Product Disclosure and Optimization

Option 1 Material Ingredient Reporting Manufacturer Inventory (1 Point)

Ingredients are listed in order of content in the final product. Information provided for ingredients down to 1,000 ppm (0.1% of product composition). All ingredients were screened using GreenScreen® List Translator. Ingredients on a hazard list are marked with a (X). Percent may change due to manufacturing variations.

Ingredient	CAS RN	Percent	Role	Chemical Review								Notes
				List Translator ²								
				LBC Red List ¹	IARC ³	MAK ⁴	NTP-RoC ⁵	Prop 65 ⁶	REACH ⁷	USEPA TRI ⁸	Other GS Lists	
Basemat												
Mineral wool	65997-17-3	70.0-78.0%	Core									
Perlite	93763-70-3	8.0 – 9.0%	Filler									
Proprietary	Undisclosed	6.0 – 7.5%	Thermoplastic binder									Highest concern GreenScreen® score–LT-U CAS RN not in List Translator system
Starch	9005-25-8	3.0 – 3.5%	Binder									
Stucco	26499-65-0	1.0 – 1.4%	Filler									
Coating												
Kaolin clay	1332-58-7	5.0 – 7.0%	Paint filler		X							German MAK - Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
Calcium carbonate	471-34-1	0.8 – 2.0%	Paint filler									
Proprietary	Undisclosed	0.2 – 0.4%	Paint binder									Highest concern GreenScreen® score–LT-U
Titanium dioxide	13463-67-7	0.1 – 0.4%	Coating pigment									Since titanium dioxide is bound with in the coating and not inhalable, it is excluded from several regulatory hazard lists
 <p>AUTHORIZED GreenScreen® PRACTITIONER</p> <p>This review was prepared by an Authorized GreenScreen® Practitioner</p>				GreenScreen® Benchmark Score Key for List Translator Assessment								
				LT-1	Likely Benchmark 1 (Avoid – Chemical of High Concern)							
				LT-P1	Possible Benchmark 1							
				BM-2	Search for Safer Substitutes							
				BM-3	Still Opportunity for Improvement							
				BM-4	Prefer-Safer Chemical							
LT-U	Insufficient information from List Translator lists for Benchmark score											

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REFERENCES

1. Living Building Challenge™ (LBC) Red List - A list of chemicals and materials that are known to pose a risk to human health and the ecosystem. Source: <http://living-future.org/lbc>
2. GreenScreen® List Translator: An assessment and hazard classification tool that identifies chemicals on GreenScreen Authoritative and Screening Lists. Source: <http://www.pharosproject.net/>
3. International Agency for Research on Cancer (IARC) – Specialized agency of the World Health Organization that identifies and categorizes chemicals, mixtures, occupational exposures, physical and biological agents, and lifestyle factors that can increase the risk of cancer. Source: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf>
4. Commission of Germany Maximum Concentrations and Biological Tolerance Values at the Workplace (MAK) – Carcinogenic Substances Source: <http://onlinelibrary.wiley.com/doi/10.1002/9783527682027.ch3/pdf>
5. National Toxicology Program Report on Carcinogens (NTP-RoC) – Interagency program that evaluates agents of public health and provides information on toxic chemicals. Source: <http://ntp.niehs.nih.gov/pubhealth/roc/roc13/>
6. California Proposition 65 (Prop 65) – California law that regulates chemicals known to cause cancer, birth defects or other reproductive harm, and informs citizens about exposures to such chemicals. Source: http://oehha.ca.gov/prop65/prop65_list/Newlist.html
7. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) - Candidate List of substances of very high concern for Authorization, updated 17 December 2014. Source: <http://echa.europa.eu/information-on-chemicals>
8. United States Environmental Protection Agency Toxic Release Inventory Listed Chemicals (USEPA TRI) – Chemicals that cause cancer, chronic human health effects, significant adverse acute human health effects, or environmental effects. Source: <http://www2.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals>

GreenScreen® for Safer Chemicals is a method for comparative Chemical Hazard Assessment (CHA) that can be used for identifying chemicals of high concern and safer alternatives. Drivers for chemical hazard assessment include regulatory standards and ecolabels including; AOEC, Boyes-N, CEPA, DOT, DSL, EPA lists, EU lists, G&L, IARC, MAK, NIOSH-C, NTP lists, NWP Priority, OR P3, OSPAR, PIC, Prop 65, Stockholm, TEDX, TRI PBT, WA PBT, WHMIS, GHS Country lists, SIN, and VwVwS. The US Green Building Council has recently included GreenScreen® in its LEED® rating system v4.