CERTIFIED
PRODUCT LENS MATERIALS TRANSPARENCY AND DISCLOSURE. VIEW SPECIFIC INGREDIENTS AND EVALUATIONS: UL.COM/PL

Product Lens

a materials health assessment

COMPANY AND PRODUCT INFO

Issued to	**Guardian Glass, AME & I Region**
For the Products	**Processed Glass**
Description	Manufactured in AME & I region at Guardian Egypt, "Egypt"; Saudi Guardian International Float Glass Ltd, "Saudi Arabia"; Guardian Zoujaj International Float Glass Co. L.L.C, "United Arab Emirates" & Gujarat Guardian Ltd, "India". Vacuum Sputter Coated (Guardian SunGuard® and Guardian ClimaGuard®) and Wet-Coated Glass (Guardian UltraMirror®, MODIGUARD® UltraMirror®, Guardian DecoCristal® and MODIGUARD® DecoCristal®)
Certification Period	July 1, 2020-July 1, 2023
Assessor	MBDC basis methodology v3.1*

GUARDIAN GLASS

MODIGUARD®

Qualifications

LEED BPDO Credit: Material Ingredients Option 1 ☑
Qualifies for as 1 product

LEED BPDO Credit: Material Ingredients Option 2 ○
Qualifies for 100% of cost

Other Achievements

MATERIALS / INGREDIENTS INFORMATION

Disclosure Level: 100 ppm ☑ 1000 ppm ○

The following table represents the top 98% of the material ingredient disclosure and ratings. For the full ingredient disclosure information, please see the table on the reverse side.

Materials	Result			
	Supply Chain/ MFG	Install	Use	End of Use
Silica Sand	I			
Soda Ash				
Glass Cullet	D, I			
Dolomite	D, I			
Water				
Limestone	D, I			
Salt Cake				
Feldspar	D, I			

Exposure Indicator

D = Dermal, Skin
I = Inhalation, air
O = Oral, mouth

*No Indicator means no potential exposure scenario identified

Color Ratings

	Low or mild hazard identified and/or potential exposure
	Moderate hazard identified and/or potential exposure
	Problematic concern found. The combination of the hazard and potential exposure leads to some caution for some uses and/or applications.
	Cannot be fully assessed due to either lack of complete formulation, or lack of toxicological information for one or more ingredients.
	Highly problematic material containing one or more chemicals classified as CMR and having a plausible route of exposure.

Go to https://spot.ul.com/ to view the full, detailed materials ingredient list

Guardian Glass
www.guardianglass.com

Gujarat Guardian Limited
www.gujaratguardianglass.com

*Methodology based on Cradle to Cradle Certified™ Product Material Health Assessment Methodology v3.1

The below table represents the full disclosure of Gujarat Product Lens 102.1 to 100 ppm

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Material	CAS Number	Role	% by weight	MFG	Install	Use	End of Use	Comment
Silica Sand	14808-60-7	Glass Raw Material	40 - 60%	I				Respiratory carcinogen. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage and crystallline substances (e.g. silica) are not present in the finished glass product.
Soda Ash	497-19-8	Glass Raw Material	10 - 20%					
Glass Cullet	99439-28-8	Glass Raw Material	15 - 25%*	D, I				Moderate eye/respiratory irritant in manufacturing stage. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Dolomite	16389-88-1	Glass Raw Material	10 - 20%	D, I				Moderate eye/respiratory irritant in manufacturing stage. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Water	7732-18-5	Glass Raw Material	< 5%					
Limestone	1317-65-3	Glass Raw Material	< 10%	D, I				Moderate eye/respiratory irritant in manufacturing stage. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Salt Cake	7757-82-6	Glass Raw Material	< 2%					
Feldspar	68476-25-5	Glass Raw Material	< 5%	D, I				Moderate eye/respiratory irritant in manufacturing stage. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Silicon	7440-21-3	Vacuum (sputter) coating raw material	≤ 0.01%	I				Moderate repiratory issues. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Aluminum	7429-90-5	Vacuum (sputter) coating raw material	≤ 0.01%					Moderate chronic toxicity issues. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Zinc Oxide	1314-13-2	Wet coating raw material	0.16-0.56%					Zinc oxide is extremely toxic to aquatic organisms across all stages. Zinc oxide is encapsulated in a coating matrix. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Solvent Blend	Proprietary	Wet coating raw material	< 2%					Blend contains several low volume solvents with various hazard classifications (high chronic toxicity, suspected carcinogen, serious eye damage, moderate human/environmental health concerns). Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage. Solvents are fully evaporated in ovens at the end of the manufacturing stage and not present in the finished coated products as supplied to the market.
Bisphenol A, epichlorohydrin polymer	25068-38-6	Wet coating raw material	0.07-0.11%	D	D		D	Catorgory 1 skin sensitizer and can contain residual BPA. This substance is encapsulated in a coating matrix. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage.
Lead (mirror only*)	Proprietary	Mirror coating raw material	<0.1%					Substance may damage fertility or the unborn child, causes damage to organs through prolonged or repeated exposure, is a flammable solid, is suspected of causing cancer and may cause harm to breast-fed children. Engineering, administrative, and proper personal protective equipment (PPE) controls are ensured to mitigate risk in the manufacturing stage. Lead is encapsulated in the base coating layer of the mirror and additional top coatings and backings are then applied. The coatings are applied to the backside of the mirror to provide mechanical and chemical durability. The coating layers of the mirror are not accessible in the use stage as intended to be installed.

*Recycling cullet benefits Guardian float glass operations in several ways: recycled glass reduces CO2 process emissions and consumption of virgin raw materials; extends the life of plant equipment (such as furnaces); and saves energy. As of the date of issue, 15-25% represents the average amount of glass cullet (internal + external) recycled into each raw material batch for these Guardian facilities. Guardian is constantly innovating to identify new opportunities to optimize and increase the use of cullet while maintaining the stringent quality standards our customers value.

Guardian float glass products may be processed by downstream customers for architectural and interior design applications. Downstream glass fabricators may utilize additional materials during fabrication of their finished products. Accessory materials may vary depending on the type of installation, final application (e.g window vs. flooring) and other factors. For information concerning the contents of these related materials, please contact the fabricator directly.

Processed glass products manufactured by Guardian do not contain asbestos or formaldehyde.

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