

## VITRO Flat Glass Glazing Products Information on: Ingredient Disclosure; Compliance with EU RoHS Directive; REACH Regulations; Conflict Minerals Reporting; and Safety Data Sheets, (Material Safety Data Sheets).

The following information is provided as VITRO’s response to customer requests for Ingredient Disclosure; Compliance with the European Union, (EU) Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, (RoHS) Directive; REACH regulations; Conflict Minerals reporting; and product / material Safety Data Sheets, (SDS) concerning VITRO Flat Glass Products as produced by VITRO.

VITRO now manufactures many different glass products that meet the diverse and demanding requirements of virtually every application that utilizes glass. These products include many different coated glass products, various tinted substrates, ultra-clear, and clear glass.

### Environmental, Health & Safety Policy

"VITRO will market, distribute and manufacture products globally in a responsible manner that protects employees, neighbors, customers and the environment. To meet this objective, the VITRO EHS Process, our management system, is integrated into each of our strategic business units. Our policy incorporates the elements of Responsible Care® and Coatings Care® initiatives and emphasizes our commitment to continuous improvement and sustainability."

### Ingredient Disclosure

VITRO Flat Glass receives requests from its customers to confirm details of the composition of the glass products that we supply.

These requests are often driven by legislation that prohibits the use of certain chemical substances in a particular application, or by the desire of the

customer to eliminate certain substances from its product range, or to allow the customer to manage its product portfolio by understanding the full range of substances that it uses.

The final composition, after melting, by weight percent of VITRO Industries Soda Lime Clear Float Glass is shown below.

Table 1. – Glass Composition

Tinted glasses are very similar in composition to clear glass with adjustments to trace elements for coloring purposes and sometimes accompanied by

VITRO Soda Lime Float Glass		
Weight Percent, %	Compound	Symbol
73 %	<i>Silicon Dioxide</i>	SiO <sub>2</sub>
14 %	<i>Sodium Oxide</i>	Na <sub>2</sub> O
9 %	<i>Calcium Oxide</i>	CaO
3 %	<i>Magnesium Oxide</i>	MgO
1 %	<i>Trace elements such as, but not limited to: Salt cake - Na<sub>2</sub>O + SO<sub>3</sub>, Rouge - Fe<sub>2</sub>O<sub>3</sub>, Coal - C</i>	

minor changes to the other components where necessary for proper melting, such as with VITRO Solargray® Glass where CaO is adjusted up to 9.8% and MgO down to 2.8%.

VITRO has prepared this document based upon its knowledge of Flat Glass products and information (such as Safety Data Sheets [SDSs]) provided to VITRO by its materials suppliers and in accordance with VITRO’s understanding of the U.S. Occupational Safety & Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and Canada’s

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Workplace Hazardous Materials Information System (WHMIS).

For VITRO products which are mixtures of chemicals that have not been toxicologically tested as a whole, these regulations require the SDS to identify the specific hazards of any hazardous component present in the mixture at 1% or greater and any carcinogen, teratogen, embryo toxin, reproductive toxin, respiratory tract sensitizer or mutagen present at 0.1% or greater (Call-outs). Additionally, VITRO identifies lead-containing materials if they are present in a product at 0.06% or greater (Call-out). Therefore, all hazardous components of a VITRO product, where hazardous is defined by the applicable regulations, are listed on the SDS if they are present in the product at or greater than their Call-out amount.

For instructions on how to obtain a SDS for a VITRO Flat Glass product see the SDS section of this bulletin.

### Compliance with EU RoHS Directive

The EU Directive 2011/65/EC “Restriction on the Use of Certain Hazardous Substances” (RoHS) and subsequent amendments up to and including 2015/863/EC requires all Member States (per Article 4(1) of the Directive) to ensure that materials and components of electrical and electronic equipment put on the market do not contain the following specific substances: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs) or polybrominated diphenyl ethers (PBDEs), or the phthalates Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP).

We have reviewed VITRO Flat Glass products with regard to the EU Directive and based on our knowledge of these products and the information (such as SDSs) provided to VITRO by its raw

material suppliers, the VITRO Flat Glass Products listed in Table 2 do not contain cadmium, hexavalent chromium, lead, mercury, polybrominated biphenyls (PBBs) polybrominated diphenyl ethers (PBDEs) or the phthalates at levels greater than the tolerated maximum concentration values established by the EU Commission Directive 2015/863/EC.

### REACH Regulation

VITRO is committed to meeting its legal obligations under “Registration, Evaluation and Authorisation of Chemicals” (REACH) Regulation, as a manufacturer, importer and downstream user of chemical substances in the European market. The REACH regulation includes “articles”. An article is defined as something of which the shape and design are more important than the chemical composition. The European Chemicals Agency (ECHA) has published guidance of these requirements available at:

<http://echa.europa.eu/support/guidance>

As glass is considered an article, VITRO has no reporting requirements in accordance with the following guidance from the ECHA with the most recent date of verification included at the end of this document in the History Table.:

A. In case the article contains substances in quantity of 0.1% or more (by weight) that have been included in the Authorization List (Annex XIV of the REACH regulation) or in the Candidate List for eventual inclusion in Authorization List and the produced or imported amounts of the article are such that the substance is produced/imported into the EU in one ton per year or more, the substances must be notified by the manufacturer.

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B. In case the article contains substances that are intended to be released, those substances must be registered by the manufacturer if they are produced/imported in the EU in one ton per year or more.

C. If your articles contain substances on the Candidate List (at >0.1%, but no total volume threshold) the manufacturer must communicate this information to the direct ship to customer.

### **Conflict Minerals Reporting**

Section 1502 of the 2012 Dodd-Frank Wall Street Reform and Consumer Protection Act added Section 13(p) to the Securities Exchange Act of 1934. This addition obligates the Security Exchange Commission to promulgate rules requiring SEC registrants whose manufactured products utilize conflict minerals that are necessary to the functionality or production of the product, to disclose annually whether any of those minerals originated in the Democratic Republic of the Congo or an adjoining country. VITRO has adopted a conflict minerals policy to fulfill these obligations that includes filing our annual Conflict Minerals Report with the SEC. VITRO's Conflict Minerals Policy and the most recent copy of the SEC report is available on our Sustainability website at the following link:

<http://sustainability.ppg.com/Home.aspx>

The use of tin is required in the production of VITRO float glass and coated glass products. A portion of our suppliers knowingly source this tin from smelters in countries covered by the regulation. In all cases we have received the necessary information from each supplier ensuring the materials are conflict free. In addition, due diligence measures and corrective action procedures are in place to regularly

confirm our suppliers are meeting VITRO's expectations.

The most recent date of this verification is included at the end of this document in the History Table. For those interested in the Center for Financial Services Information, (CFSI) Conflict Minerals Reporting Template, this document is available upon written request to VITRO Flat Glass Technical Services.

### **Safety Data Sheets**

VITRO float glass products are considered to be "articles" as defined by OSHA 29 CFR 1910.1200 (and all global hazard communication regulations) and as such there are no specific SDS or labeling requirements for our products.

As a service to our customers VITRO provides SDS's for all of our soda lime float glass products. See Table 2 below.

SDS's are prepared with the intention that all hazardous components of a VITRO product, where hazardous is defined by the applicable regulations, are listed on the SDS if they are present in the product at or greater than their Call-out amount.

In addition, although not required, VITRO distributes Safety Data Sheets (SDS) to our Sungate® and Solarban® coated glass customers who perform edge deletion. These products contain a very small percentage of metals, and VITRO has determined that employees involved in the edge deletion process may have the potential to be exposed to metal dust. The OSHA Permissible Exposure Limit (PEL) for silver is 0.01 mg/m<sup>3</sup> and the Ontario Occupational Exposure Limit, (OEL-2015) is 0.1mg/m<sup>3</sup>. Consult the Sungate® and Solarban® Magnetic Sputtered Vapor Deposition, (MSVD) Coated

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Float Glass SDS (See Table 2 below) and VITRO Technical Document TD-141 for further information.

Please contact VITRO Flat Glass Technical Services at 412-820-8500 if you have additional questions regarding VITRO products.

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Table 2. - VITRO SDS Listing

<b>SDS Title<sup>1</sup></b>	<b>Included Products</b>	<b>Product<sup>1</sup> Code</b>
VITRO Non-Coated Float Glass	Clear, Starphire <sup>®</sup> , Solarbronze <sup>®</sup> , Solargray <sup>®</sup> , Atlantica <sup>™</sup> , Solexia <sup>™</sup> , Graylite <sup>®</sup> II, Optigray <sup>®</sup> , Optiblue <sup>®</sup> , Azuria <sup>™</sup> , Pacifica <sup>™</sup> and Solarblue <sup>™</sup> , Solarphire <sup>™</sup> , Solarphire <sup>™</sup> PV.	<a href="#"><u>01048</u></a>
Non-Metal Based Offline Coated Float Glass	Solarphire <sup>®</sup> NaB, Solarphire <sup>®</sup> AR, Solarphire <sup>®</sup> 2XAR, Clarvista <sup>™</sup>	<a href="#"><u>01573</u></a>
VITRO Chemical Vapor Deposition (CVD) and Spray Pyrolysis Coated Float Glass	Solarphire <sup>®</sup> STCO, Solarphire <sup>®</sup> HTCO, Solarcool <sup>®</sup> Coated Substrates and Vistacool <sup>™</sup> Coated Substrates.	<a href="#"><u>01049</u></a>
Magnetic Sputtered Vapor Deposition (MSVD) Coated Float Glass	Sungate <sup>®</sup> 400, Sungate <sup>®</sup> 400VT, Sungate <sup>®</sup> 460, Sungate <sup>®</sup> 460VT, Solarban <sup>®</sup> 60, Solarban <sup>®</sup> 60VTII, Solarban <sup>®</sup> 67, Solarban <sup>®</sup> 67VT, Solarban <sup>®</sup> 70XL, Solarban <sup>®</sup> 70XLVT, Solarban <sup>®</sup> 72VT, Solarban <sup>®</sup> 90, Solarban <sup>®</sup> 90VT, Solarban <sup>®</sup> z50, Solarban <sup>®</sup> z50VT, Solarban <sup>®</sup> z75VT Solarban <sup>®</sup> R100VT.	<a href="#"><u>01050</u></a>

<sup>1</sup> All SDS documents can be obtained by clicking on the link of the Product Code or using <http://www.Vitroideas.com/Glass/Tools-Resources/Technical-Info/MSDS.aspx>. Search menus are available on the page to select country and language for each SDS Title.

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HISTORY TABLE		
ITEM	DATE	DESCRIPTION
Original Publication	March 31, 2006	TD-143
Revision 1 - 8	Multiple	See archived file for update descriptions.
Revision 9	September 24, 2015	Modified to incorporate all metals. Removal of discontinued products. Reformatted table and added instructions. Addition of dates to code enforcement bodies. Editorial changes.
Revision 10	January 19, 2016	Addition of Glass Composition Table, changed Product Code hyperlinks and footnote 1 in Table 2 and deleted old SDS instructions.
Revision 11	February 22, 2016	Addition of Conflict Minerals, REACH and Glass composition text. Addition of Solarban 90, 90VT and z75. Addition of Sungate 460 and 460VT. Revision date is the date of verification of compliance to EU RoHS, REACH, and Conflict Minerals regulations.
Revision 12	2016-10-04	Updated to Vitro Logo and format

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