

# V-MAR® F100

## ENVIRONMENTAL PRODUCT DECLARATION CRADLE-TO-GATE



## General Information

**Manufacturer Name:** Chryso Saint Gobain  
62 Whittemore Avenue  
Cambridge, Massachusetts  
02140, USA



**Program Operator:** ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA  
19428-2959, USA



**Declaration Number:** EPD 928

**Reference PCR:** ISO 21930: 2017

**Date of Issuance:** March 5, 2025

**End of Validity:** March 5, 2030

**Product Name:** V-MAR® F100

**EPD Owner:** Chryso Saint Gobain

**Declared Unit:** 1 kg of V-MAR® F100

**EPD Scope:** Cradle-to-Gate (A1, A2, and A3)

**Prepared By:** WAP Sustainability Consulting



**Verification:** ISO 21930 serves as the core PCR. Independent verification of the declaration according to ISO 14025 and ISO 21930.

internal       external

**LCA Reviewer  
and EPD Verifier:** Timothy S. Brooke  
ASTM International



## Company Information

Chryso is a leading global provider of construction products that include high-performance specialty construction chemicals and building materials. Chryso partners with producers, contractors, designers, and engineers to achieve performance and sustainability goals. The company has a legacy of first to market and award-winning solutions that have been used to build some of the world's most renowned structures. Chryso is focused on continuous improvement for its customers, end-users, and the environment.

## Product Information

V-MAR® F100 is a high efficiency, rheology-modifying liquid admixture specifically designed for zero slump and low slump applications. The use of V-MAR® F100 admixture imparts lubricity to the concrete resulting in increased productivity and concrete with improved surface texture. This formulation of V-MAR® adds lubricity to concrete with low water content. This extra lubricity produces a better looking surface, while enhancing throughput and productivity. The concrete will move through machinery faster, without sticking and tearing the surface. V-MAR® F100 can also be used in conventional concrete to improve cast surfaces and reduce bugholes.

Table 1: Technical Data

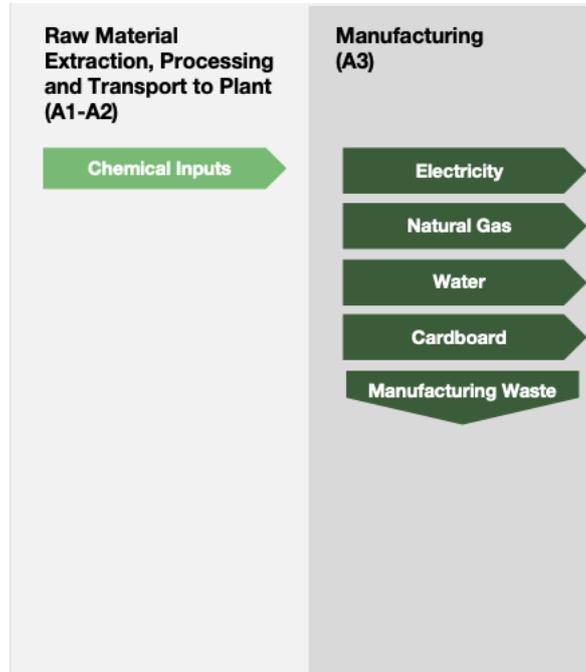
<b>Product Nature</b>	Liquid
<b>Color</b>	Colourless to light yellow
<b>Cl<sup>-</sup> ions content</b>	≤ 0,100 %
<b>Specific gravity (25°C)</b>	1,210 g/ml
<b>pH (25°C)</b>	11,00

## LCA Information

<b>Declared unit</b>	1 kg of V-MAR® F100
<b>Reference service life</b>	Not declared as use phase is not included in the study
<b>Description of the system boundaries</b>	Cradle to Gate
<b>Geographical representativeness</b>	A1-A3: United States
<b>Manufacturing locations</b>	Royse City, Houston, Los Angeles, North Bergen
<b>Time representativeness</b>	Primary data collected for calendar year 2023
<b>Cut-off rules</b>	All flows for which data were provided are included in the assessment, accounting for at least 99% of the energy or mass flows and at least 99% of the environmental impacts from the product system. Production of capital equipment is excluded from this assessment.
<b>Allocation Procedures</b>	Mass was deemed the most appropriate physical parameter for allocation
<b>Database and LCA software used</b>	SimaPro 9.0.1 Ecoinvent V3.9.1
<b>LCA Report</b>	LCA of Admixtures, WAP Sustainability, October 2025

EPDs are comparable only if they comply with this document, use the same sub-category PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works.

System diagram:



	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage	
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geography	US			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

No substances in the product are on the Candidate List of Substances of Very High Concern (SVHC) which exceed the limits for registration with the European Chemicals Agency.



## Results of the environmental performance indicators

The results presented here are for 1 declared unit, which is 1 kg of V-MAR® F100  
LCIA impact categories are reported using TRACI 2.1 indicators.

Environmental Indicator	Abbreviation	Units	Total	A1	A2	A3
<b>Core Mandatory Impact Indicator</b>						
Global warming potential	<b>GWP</b>	kg CO <sub>2</sub> -eq	7.41E+01	7.22E+01	7.43E-02	1.83E+00
Depletion potential of the stratospheric ozone layer	<b>ODP</b>	kg CFC-11-eq	1.16E-02	1.16E-02	1.21E-09	2.37E-08
Acidification potential of land and water	<b>AP</b>	kg SO <sub>2</sub> -eq	7.16E-01	7.11E-01	1.49E-04	5.26E-03
Eutrophication potential	<b>EP</b>	kg PO <sub>4</sub> -eq	2.23E-01	2.22E-01	1.30E-05	3.55E-04
Formation of tropospheric ozone	<b>SFP</b>	kg O <sub>3</sub> -eq	3.64E+00	3.60E+00	2.45E-03	3.45E-02
Abiotic depletion potential for fossil resources	<b>ADP<sub>f</sub></b>	MJ Surplus	1.84E+03	1.83E+03	1.04E+00	1.33E+01
<b>Use of Primary Resources</b>						
Renewable primary energy carrier used as energy	<b>RPRE</b>	MJ	1.63E+01	1.62E+01	3.52E-02	2.30E-02
Renewable primary energy carrier used as material	<b>RPRM</b>	MJ	2.07E-01	2.07E-01	0.00E+00	0.00E+00
Non-renewable primary energy used as energy	<b>NRPRE</b>	MJ	2.10E+03	2.09E+03	1.13E+00	1.48E+01
Non-renewable primary energy used as material	<b>NRPRM</b>	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Secondary Material, Secondary Fuel and Recovered Energy</b>						
Use of secondary materials	<b>SM</b>	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	<b>RSF</b>	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	<b>NRSF</b>	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy	<b>RE</b>	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Mandatory Inventory Parameters</b>						
Use of freshwater resources	<b>FW</b>	m <sup>3</sup>	2.68E+00	7.33E-01	5.94E-02	1.89E+00
<b>Indicators Describing Waste</b>						
Disposed of hazardous waste	<b>HWD</b>	kg	1.02E+00	1.02E+00	0.00E+00	2.93E-04
Disposed of non-hazardous waste	<b>NHWD</b>	kg	4.50E-02	4.00E-02	0.00E+00	5.04E-03
Disposed of high-level radioactive waste	<b>HLRW</b>	m <sup>3</sup>	3.27E-10	0.00E+00	1.19E-11	3.15E-10
Disposed of low-level radioactive waste	<b>LLRW</b>	m <sup>3</sup>	4.14E-07	4.13E-07	6.05E-11	1.74E-09
Components for reuse	<b>CRU</b>	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	<b>MFR</b>	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	<b>MER</b>	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electrical energy (waste to energy)	<b>EEE</b>	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported thermal energy (waste to energy)	<b>ETE</b>	kg	1.02E+00	1.02E+00	0.00E+00	2.93E-04

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of modules A1-A3 shouldn't be used without considering the results of module C. A1-A3 results include the "balancing-out reporting" of biogenic CO<sub>2</sub> of packaging, traditionally released in A5. Additional optional indicators per EN 15804+A2 are not declared, including: particulate matter emissions; ionizing radiation, human health; eco-toxicity (freshwater); human toxicity, cancer effects; human toxicity, non-cancer effects; land use related impacts/soil quality.

## Additional environmental information

No additional environmental, social, or economic information is declared in this EPD.

## References

- ASTM 2020 - ASTM Program Operator for Product Category Rules (PCR) and Environmental Product Declarations (EPDs) General Program Instructions v8, April 29<sup>th</sup>.
- WAP Sustainability Consulting (2025) - A Cradle-to-Gate Life Cycle Assessment of Chryso Admixtures, Manufactured by Chryso Saint Gobain.
- ISO 21930: 2017 Building construction – Sustainability in building construction – Environmental declaration of building products.
- ISO 14025: 2006 Environmental labeling and declarations - Type III environmental declarations - Principles and procedures.
- ISO 14044:2006/AMD 1:2017/ AMD 2:2020 - Environmental management - Life cycle assessment - Requirements and guidelines.
- 14040:2006/AMD 1:2020 - Environmental management - Life cycle assessment - Principles and framework.

