ECLIPSE® 4500
ENVIRONMENTAL PRODUCT DECLARATION CRADLE-TO-GATE

ASTM INTERNATIONAL

chryso SAINT-GOBAIN

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 919
Reference PCR:	ISO 21930: 2017
Date of Issuance:	March 5, 2025
End of Validity:	March 5, 2030
Product Name:	Eclipse® 4500
EPD Owner:	Chryso Saint Gobain
Declared Unit:	1 kg of Eclipse® 4500
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

Eclipse® 4500 is a liquid admixture formulated explicitly for use in air-entrained structures such as bridge decks, parking garages, marine structures, containment structures, and any other outdoor concrete structure that's subject to freeze-thaw conditions.

Table 1: Technical Data

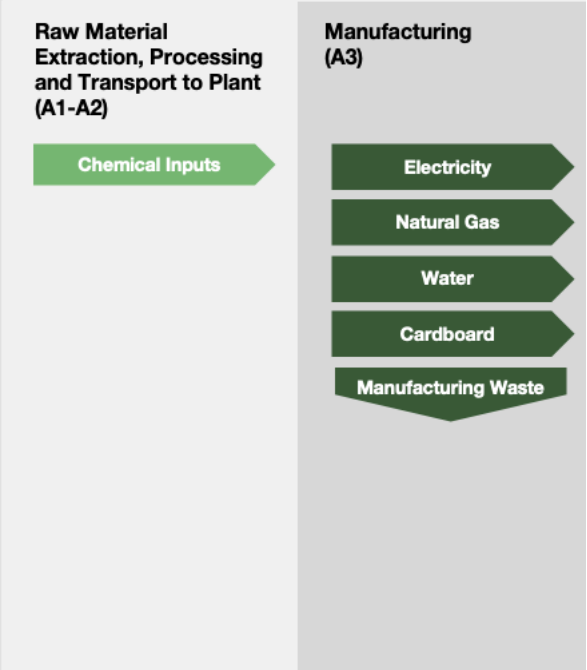
Product Nature	Liquid
Color	Colourless to light yellow
Cl^- Ions content	≤ 0,100 %
Specific gravity (25°C)	1,210 g/ml
pH (25°C)	11,00

LCA Information

Declared unit	1 kg of Eclipse® 4500
Reference service life	Not declared as use phase is not included in the study
Description of the system boundaries	Cradle to Gate
Geographical representativeness	A1-A3: United States
Manufacturing locations	Royse City, Houston, Los Angeles, North Bergen
Time representativeness	Primary data collected for calendar year 2023
Cut-off rules	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.
Allocation Procedures	Mass was deemed the most appropriate physical parameter for allocation
Database and LCA software used	SimaPro 9.0.1 Ecoinvent V3.9.1
LCA Report	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
Geography	US			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 Eclipse® 4500.
LCIA impact categories are reported using TRACI 2.1 indicators.

Environmental Indicator	Abbreviation	Units	Total	A1	A2	A3
Core Mandatory Impact Indicator						
Global warming potential	**GWP**	kg CO_2-eq	4.00E+00	3.40E+00	1.76E-01	4.24E-01
Depletion potential of the stratospheric ozone layer	**ODP**	kg CFC-11-eq	7.63E-08	7.30E-08	3.11E-09	1.49E-10
Acidification potential of land and water	**AP**	kg SO_2-eq	1.60E-02	1.20E-02	3.94E-04	3.56E-03
Eutrophication potential	**EP**	kg PO_4-eq	1.60E-03	1.53E-03	3.36E-05	4.19E-05
Formation of tropospheric ozone	**SFP**	kg O_3-eq	1.71E-01	1.55E-01	7.10E-03	9.24E-03
Abiotic depletion potential for fossil resources	**ADPf**	MJ Surplus	7.13E+01	6.19E+01	2.64E+00	6.70E+00
Use of Primary Resources						
Renewable primary energy carrier used as energy	**RPRE**	MJ	2.69E+00	2.63E+00	3.52E-02	1.57E-02
Renewable primary energy carrier used as material	**RPRM**	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable primary energy used as energy	**NRPRE**	MJ	7.97E+01	6.93E+01	2.85E+00	7.54E+00
Non-renewable primary energy used as material	**NRPRM**	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Secondary Material, Secondary Fuel and Recovered Energy						
Use of secondary materials	**SM**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	**RSF**	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	**NRSF**	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy	**RE**	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mandatory Inventory Parameters						
Use of freshwater resources	**FW**	m^3	1.31E+01	1.29E+01	1.55E-01	5.52E-02
Indicators Describing Waste						
Disposed of hazardous waste	**HWD**	kg	2.93E-04	0.00E+00	0.00E+00	2.93E-04
Disposed of non-hazardous waste	**NHWD**	kg	5.04E-03	0.00E+00	0.00E+00	5.04E-03
Disposed of high-level radioactive waste	**HLRW**	m^3	2.55E-09	2.45E-09	3.15E-11	6.92E-11
Disposed of low-level radioactive waste	**LLRW**	m^3	1.22E-08	1.16E-08	1.64E-10	4.20E-10
Components for reuse	**CRU**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	**MFR**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	**MER**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electrical energy (waste to energy)	**EEE**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported thermal energy (waste to energy)	**ETE**	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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_2 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 29th.
- 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