Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Effisus Bonding KF+P

from

Effisus

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0024969
Version date:	2025-10-17
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An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14 Construction products, version 2.0.1, published on 2025-06-05, valid until 2030-04-07*
PCR review was conducted by: *The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com. Chairs of the PCR Review: Rob Rouwette (chair) and Noa Meron (co-chair).*
Life Cycle Assessment (LCA)
LCA accountability: Anthesis Group
Third-party verification
External and independent ("third-party") verification of the declaration and data, according to ISO 14025:2006, via EPD verification through: ☒ Individual EPD verification without a pre-verified LCA/EPD tool. Third-party verifier: Cristina Gazulla Santos, CERTINALIA, S.L.U. Anardi Area Aldea, 5, 20730 Azpeitia, Guipuzkoa (Spain) is an approved certification body accountable for the third-party verification. Accredited by: ENAC (accreditation number 125/C-PR283).
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: EFFISUS, UNIPESSOAL Lda. Located in Vila Nova de Famalicão, Portugal.

Contact: Paula Moço Viana, paulamoco@effisus.com

Description of the organisation: Effisus provides high-performance weatherproofing solutions for the building envelope, ensuring long-term durability and energy efficiency. Specialized in façades and roofs, Effisus supports the construction industry worldwide with comprehensive solutions to manage water, air and water vapour, focusing on delivering certified systems and innovative solutions for resilient, efficient, and future-ready buildings.

Product-related or management system-related certifications: Reference Standard NP EN ISO 9001:2015.

Name and location of production site(s): Germany

Product information

Product name: Effisus Bonding KF+P Adhesive

Product identification: The Effisus Bonding KF+P Adhesive is a solvent-free adhesive and sealant.

Product description: Effisus Bonding KF+P has exceptional properties of adhesiveness, waterproofing and UV resistance, suitable for LEED or BREEAM certification systems. It has 1.23g/cm^3 of density, 0.55N/mm^2 of tear strength, 150% of elongation and 1mm of recommended minimum layer thickness.

Manufacturing process: The Effisus KF+P adhesive is produced by blending PDMS polymer with additives in a controlled mixing environment, followed by moisture-curing to achieve the desired viscosity and elasticity and packaging.

UN CPC code: 35420 Glues and gelatine, peptones and their derivatives, and related products; caseinates and other casein derivatives; albuminates and other albumin derivatives.

Geographical scope: Global
Raw materials are supplied from Europe and China. The products studied are produced in Germany but can be used on a global scale.

Name of manufacturer(s), if different from the EPD owner: The product manufacturer is different to the EPD owner. Product manufacturer is located in Germany as specified in the company information section.

Content information

Information on the environmental and hazardous/toxic properties of a substances contained in the product: the Effisus Bonding KF+P adhesive is classified according to the CLP regulation (EC No 1272/2008) as containing a category 3, H412 hazard level (“Harmful to aquatic life with long lasting effects”).

The product contains dodecamethylcyclohexasiloxane, which is in the Substances of Very High Concern (SVHC) list and constitutes <0.5% of the weight of the product. The precautionary statements associated with the label are the following:

- P273: Avoid release to the environment.
- P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

Other information on substances with hazardous and toxic properties, particularly substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878:

- <0.2% 3-aminopropyltriethoxysilane (Acute Tox. 4: H302; Eye Dam. 1: H318; Skin Corr. 1B: H314; Skin Sens. 1B: H317 – Danger)
- <0.1% octamethylcyclotetrasiloxane (Aquatic Chronic 1: H410; Repr. 2: H361f; Flam. Liq. 3: H226 – Warning)

Product components	Weight, kg/ l	Post-consumer material, weight-%	Biogenic material, weight-%	Biogenic material, weight-kg
Silicon-based materials	0.83	0	0	0
Fillers	0.44	0	0	0
Additives	1.27E-03	0	0	0
TOTAL	1.27	0	0	0
Packaging materials	**Weight, kg/l**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/ L**	**Weight biogenic carbon dioxide kg CO_2/ L**
Plastic	1.52E-02	1.2%	0	0
Metal	7.01E-03	0.6%	0	0
Paper	0.03	2.5%	0.01	0.06
Pallet	3.50E-04	0.0%	3.64E-03	0.01
TOTAL	0.05	4.2%	0.02	0.07

LCA information

Declared unit: 1 litre of Effisus Bonding KF+P Adhesive with 1.23g/cm^3 of density.

Reference service life: not applicable.

Time representativeness: All specific data related to the production plant and used for the study dates from 2023.

Database(s) and LCA software used: The secondary data has been extracted from the Ecoinvent v3.11 database, included in the SimaPro v10.2 software and internationally recognized. Wherever possible, inventory data relating to the specific study countries, or in their absence from Europe in general, has been selected. These have been used for the stage of production and transport of raw materials, as well as for electricity generation or waste management processes, over which the manufacturer has no direct influence.

Description of system boundaries: This EPD report considers a scope of “cradle to gate” (A1-A3), which covers the modules of raw material supply (A1), transportation to manufacturing (A2) and manufacturing (A3).

The distribution stage (A4) is not covered by the LCA as the clients are very scattered geographically, causing potential distribution impacts to suffer great variations depending on each location and any average value given for the A4 module to carry great uncertainty and not represent useful information. The installation module is also excluded as installation impacts are deemed negligible. The use stage is not included as adhesives have no operational impacts. Besides, the adhesive under study fulfils the criteria for excluding the end-of-life stage (module C) in section 2.2.2.1 (Criteria for excluding end-of-life stage, i.e., for an EPD to be of type d or e).

- The product or material is physically integrated with other products during installation so they cannot be physically separated from them at end of life: as justified by the product manufacturers and distributors, the adhesive is attached to the surface where it is used, which prevents it from being recovered during the building's deconstruction.
- The product or material is no longer identifiable at end of life as a result of a physical or chemical transformation process
- The product or material does not contain biogenic carbon
- The EPD is not intended to be used for business-to-consumer communication

Applicable lifecycle stages with the system boundaries and processes are described below:

- **Raw materials supply (A1):** This module considers the extraction and processing of raw materials used for the manufacture of the adhesive.

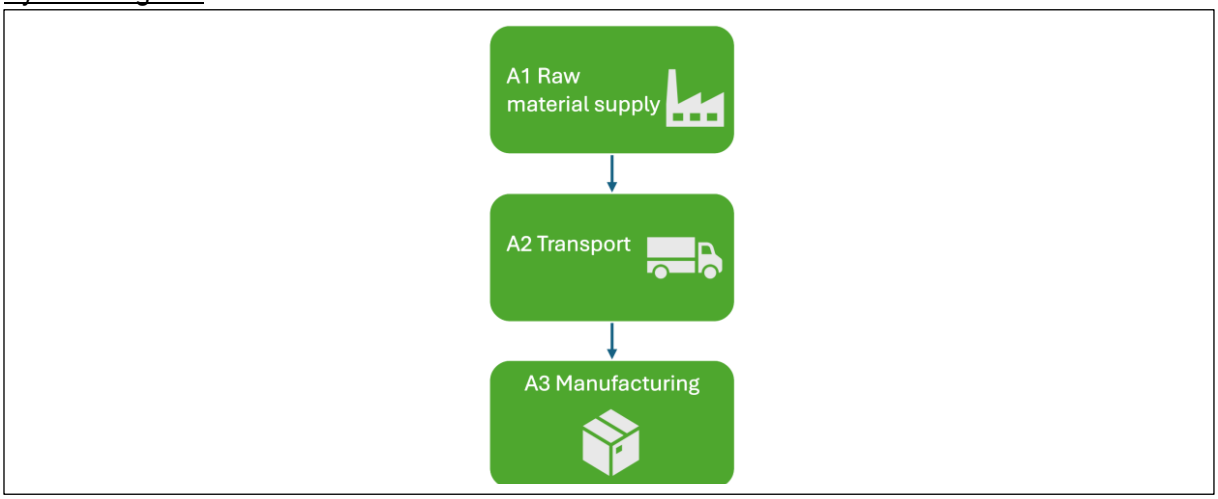
- **Transport (A2):** This module consists of the transportation of the raw materials to the manufacturing plant.

- **Manufacturing (A3):** This module includes the impacts associated with the manufacturing of the adhesive in the suppliers’ installations including the product packaging, the burning of fuels, and the treatment and transport of the waste generated throughout the manufacturing process of the products. Regarding electricity consumption, the following mix has been modelled corresponding to the mix as purchased to the electricity supplier in the production plant in Germany. The climate impact of this mix is 0.24 kg CO_2 eq./kWh (using the GWP-GHG indicator).

Renewables	76.8%
Natural gas	5.2%
Coal	16.6%
Nuclear	0.9%
Other non-renewables	0.5%

As a trader EPD, module A3 also includes the transportation of the finished product from the supplier’s installations to Effisus’s warehouse in Portugal. Note the adhesives do not require special storage conditions, leading to impacts from the warehouse to be negligible. No additional packaging is required either, given that the warehouse receives packaged products.

System diagram:



Infrastructure and capital goods for upstream, core and downstream processes has been excluded.

Allocation procedures

- The electricity consumption of the product for been calculated using a mass allocation, by dividing the total electricity consumption of the production plant by the total kg of product produced.

- For the rest of the production plant energy consumption as well as for waste produced a mass allocation were used.

Data quality requirements

This EPD is based on data collected by EFFISUS, UNIPESSOAL Lda. from the German production plant. The EPD covers a product named Effisus Bonding KF+P.

Data quality requirements established by ISO 14025 standard, PCR 2019:14 Construction products, version 2.0.1 and UNE-EN 15804:2012+A2:2020 have been applied. The technological, geographical, and temporal coverage of the primary data has been evaluated through a data quality assessment of generic and specific data defined by the PEF on LCA database development as described in Annex E.2 of the UNE-EN 15804:2012+A2:2020 standard. As a result of the data quality matrix, it is quantified that the gathered data achieves a medium level of quality (3.79 out of 5) in a range of very poor (1), poor (2), medium (3), good (4) and very good (5).

The quality of the data used to calculate this LCA meets the following requirements:

- Used background data are of recognised prestige and acceptance in the technical and scientific fields. In particular, the Ecoinvent v3.11 database, the most recent version existing at the time of the study, is considered to be of preferential use.

- Regionally specific datasets were used to model the energy consumption (electricity or natural gas). For the processes of transport, production of raw materials or end-of-life, datasets were chosen according to their technological and geographical representation of the actual process.

Furthermore, certain quality limitations have been identified because of database constraints:

- The data quality assessment points at a lower technical representativity for the raw materials as three chemicals were modelled using a generic organic chemical dataset due to the unavailability of more specific options given the specificity of the compounds. However, these have a combined weight over the total weight of the product of 2.6% and their contribution to total impacts is negligible.

- Some of the datasets employed for the modelling of waste treatments within A1 have poor geographical representativeness. However, given the relevance of plant waste treatment, their contribution to the overall impacts is minimal.

Hypothesis and considerations applied

The main assumptions made in the study are the following:

- The production data used in the study corresponds to the year 2023
- For electricity consumption, other plant resource uses, and waste generation, a mass-based allocation was performed, expressed per kilogram of product produced during the study year.
- The electric mix for the manufacturing plant is an adaptation of the country mix ecoinvent dataset of Germany to reflect energy source purchased for the plants. The sources of energy have been adapted according to the information on the electric mix provided by the supplier for the plant, including the following shares: Renewables:76.8%, Natural gas: 5.2%, Coa: 16.6%, Nuclear: 0.9%, Other non-renewables: 0.5%
- It is assumed that all transport carried out by lorry complies with the European emission standard Euro VI.
- The secondary and third packaging used to distribute the products from the manufacturing plants to EFFISUS is assumed to be the same that will be distributed to the final clients.
- A treatment method has been assigned to each type of waste generated at the production plant based on the waste management procedures provided by the supplier. For the distribution of each treatment type by waste category, data from Eurostat (Eurostat, 2022) were consulted. When multiple treatment options are available for certain wastes and no specific information is provided, the most conservative approach has been adopted.
- Since the location of the packaging raw materials providers is unknown, an assumption of 50km of distance from the production plant is applied.
- It is assumed that there is a distance of 50 km between the production plant and the waste treatment plant, and waste is transported by a 16-32 metric ton truck.
- It is assumed that the raw materials are transported from suppliers to a warehouse in Portugal by a >32 metric ton truck.

More information:

Company website for more information: effisus.com

Name and contact information of LCA practitioner:

Anthesis Group
Rambla de Catalunya, 6, principal, 08007 Barcelona
+34 938 515 055
www.anthesisgroup.com

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	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	GLO	GLO	DE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific data used	16.3%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Process	Source type	Source	Reference year	Data category	Share of primary and generic data, of GWP-GHG results for A1-A3
Raw materials	Database	Ecoinvent v3.11	2023	Generic data	82.4
Silanol group-terminated	Database	Ecoinvent v3.11	2023	Generic data	51.5
Polydimethylsiloxane	Database	Ecoinvent v3.11	2023	Generic data	21.7
Energy consumption	Inventory	Product manufacturer	2023	Primary data	0.5
Transport of raw materials	Inventory	Product manufacturer	2023	Primary data	14.7
Packaging	Database	Ecoinvent v3.11	2023	Generic data	0.9
Transport of raw packaging	Inventory	Product manufacturer	2023	Primary data	<0.1
Waste	Database	Ecoinvent v3.11	2023	Generic data	0.4
Waste transportation	Inventory	Product manufacturer	2023	Primary data	<0.1
Transport to Effisus	Inventory	Product manufacturer	2023	Primary data	1.1
Total share of primary data, of GWP-GHG results for A1-A3					**16.3%**

Results of the environmental performance indicators

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 characterization methods of version EF 3.1 of the EN 15804 reference package (2023) adapted for SimaPro substances has been used.

Mandatory impact category indicators according to EN 15804

Results per declared unit		
Indicator	**Unit**	**A1-A3**
GWP-fossil	kg CO_2 eq.	1.71E+01
GWP-biogenic	kg CO_2 eq.	7.25E-02
GWP- luluc	kg CO_2 eq.	1.57E-02
GWP- total	kg CO_2 eq.	1.72E+01
ODP	kg CFC 11 eq.	1.42E-03
AP	mol H^+ eq.	7.28E-02
EP-freshwater	kg P eq.	4.83E-04
EP- marine	kg N eq.	1.65E-02
EP-terrestrial	mol N eq.	1.64E-01
POCP	kg NMVOC eq.	5.67E-02
ADP-minerals&metals*	kg Sb eq.	6.09E-06
ADP-fossil*	MJ	2.12E+02
WDP*	m^3	2.69E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption	

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

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."

Biogenic carbon leaving the product system in module A5 has been balanced out in modules A1-A3.

Additional mandatory and voluntary impact category indicators

Results per declared unit		
Indicator	**Unit**	**A1-A3**
GWP-GHG[1]	kg CO_2 eq.	1.72E+01
PM	disease inc.	6.72E-07
IRP[2]	kBq U-235 eq	3.59E-01
ETP-fw[3]	CTUe	3.07E+03
HTP-c[3]	CTUh	5.35E-08
HTP-nc[3]	CTUh	1.64E-07
SQP[3]	Pt	4.27E+01
GWP-GHG = Potential global warming - Greenhouse gases; PM = Particulate matter; IRP = Ionizing radiation. human health; ETP-fw = Ecotoxicity freshwater - organic; HTP-c = Human health. carcinogenic effects; HTP-nc = Human health. non-carcinogenic effects; SQP = Land use; NR = Non relevant		
1This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such. the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.		
2 This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents. occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil. from radon and from some construction materials is also not measured by this indicator		
3 The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator		

Resource use indicators

For Primary Energy Use indicators, option B of PCR 2019:14 v.2.0 has been followed.

Results per declared unit		
Indicator	**Unit**	**A1-A3**
PERE	MJ	2.34E+01
PERM	MJ	7.42E-01
PERT	MJ	2.42E+01
PENRE	MJ	8.51E+01
PENRM	MJ	3.47E+01
PENRT	MJ	1.20E+02
SM	kg	0.00E+00
RSF	MJ	0.00E+00
NRSF	MJ	0.00E+00
FW	m^3	1.04E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water	

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Waste indicators

Results per declared unit		
Indicator	**Unit**	**A1-A3**
Hazardous waste disposed	kg	4.15E-03
Non-hazardous waste disposed	kg	2.52E-01
Radioactive waste disposed	kg	2.43E-04

Output flow indicators

Results per declared unit		
Indicator	**Unit**	**A1-A3**
Components for re-use	kg	0.00E+00
Material for recycling	kg	6.99E-02
Materials for energy recovery	kg	0.00E+00
Exported energy. electricity	MJ	0.00E+00
Exported energy. thermal	MJ	0.00E+00

Additional Environmental Information

The Effisus Bonding KF+P is Eurofins Indoor Air Comfort (Gold) certified, meeting the low VOC emission requirements set by the most relevant green certifiers (LEED v 4.1, BREEAM, EMICODE EC1, and others), contributing to good indoor air quality. The reference to these test results and certifications is included in this EPD as evidence of compliance with the indoor air quality requirements specified in the PCR.

Abbreviations

Abbreviation	Definition
EN	European Norm (Standard)
GPI	General Programme Instructions
ISO	International Organization for Standardization
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative
SVHC	Substances of Very High Concern
ND	Not Declared
PCR	Product Category Rules
LCI	Life Cycle Inventory
LCA	Life Cycle Assessment
UN	United nations
UNE	Asociación Española de Normalización

Version hystory

Original Version of the EPD, 2025-10-17

References

- General Programme Instructions (GPI) of the International EPD system. Version 5.0.
- Product Category Rules (PCR): PCR 2019:14 Construction products, version 2.0.1, published on 2025-06-05, valid until 2030-04-07.
- Environdec Programme: The International EPD System https://www.environdec.com/home
- ISO/TR 14047: 2003 – Environmental management – Life Cycle Assessment – LCI application examples.
- ISO/TS 14048: 2003 – Environmental management – Life Cycle Assessment – Data inventory.
- ISO/TR 14049: 2000 – Environmental management – Life Cycle Assessment – Examples of application of objectives and scope and inventory analysis.
- UNE-EN ISO 14040:2006 – Environmental management – Life Cycle Assessment – Principles and framework.
- UNE-EN ISO 14044:2006 – Environmental management – Life Cycle Assessment – Requirements.
- UNE-EN 15804:2012+A2:2020 – Sustainability in construction. Product environmental statements. Commodity category rules for construction products.

VERIFICATION STATEMENT CERTIFICATE

CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD13204

CERTINALIA S.L.U., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:
CERTINALIA S.L.U., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

EFFISUS, UNIPESSOAL, Lda.
Travessa José Oliveira Mendes, Nº 87 and 103
4760-912 Vila Nova de Famalicão (Portugal)

for the following products:
para los siguientes productos:

Adhesive Effisus Bonding KF+P
Adhesivo Effisus Bonding KF+P

with registration number **EPD-IES-0024969** in the International EPD® System *(www.environdec.com).*
*con número de registro **EPD-IES-0024969** en el Sistema International EPD® (www.environdec.com).*

it´s in conformity with:
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v5.**
- **PCR 2019:14 Construction products, version 2.0.**
- **UN CPC 35420 Glues and gelatine, peptones and their derivatives, and related products; caseinates and other casein derivatives; albuminates and other albumin derivatives.**

Issued date / *Fecha de emisión:*	02/10/2025
Update date / *Fecha de actualización:*	16/10/2025
Serial Nº / *Nº Serie:*	EPD1320401-E

Carlos Nazabal Alsua
Manager

This certificate is not valid without its related EPD.
Este certificado no es válido sin su correspondiente EPD.

This certificate is subject to modifications, temporary suspensions and withdrawals by CERTINALIA.
El presente certificado está sujeto a modificaciones, suspensiones temporales y retiradas por CERTINALIA.

The validity of this certificate can be checked through consultation in www.certinalia.com.
El estado de vigencia del certificado puede confirmarse mediante consulta en www.certinalia.com.

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