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A VERIFIED ENVIRONMENTAL DECLARATION

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AENOR

Environmental Product Declaration

EN ISO 14025:2010

SEMI-STRETCHABLE SACK PAPER

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Alier

ALIER S.A.

The Declaration holder is responsible for its content, as well as for keeping the supporting documentation that justifies the data and statements included during the period of validity.

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AENOR is a founding member of ECO Platform, the European Association of Environmental Product Declaration Verification Programmes.

PCR 2010:14. Processed paper and paperboard product category
Independent verification of the declaration and data in accordance with EN ISO 14025:2010 standard ☐ Internal ☒ External
Verification body AENOR

1. General information

1.1. The organisation

ALIER, S.A. is a leading company in sustainable manufacturing since 1948, specialised in the production of recycled paper from 100% recovered paper, with a great capacity for the recycling of difficult to treat papers such as moisture-resistant, laminated, laminated, pasted paper, liquid packaging, plasticised, etc.

The organisation has a Quality Management System and an Environmental Management System in accordance with the requirements of the UNE-EN ISO 9001:2015 and UNE-EN ISO 14001:2015 standards, respectively. In addition, PEFC and FSC chain of custody certification of forest products is available.

ALIER is committed to the BCorp movement, obtaining certification in 2022.

We also have the certificates of an approved company as an ECOEMBES S.A. regenerator/recycler for paper-cardboard and beverage/food cardboard material from selective collection.

Currently ALIER, S.A. has implemented an Energy Management System based on the UNE-EN ISO 50001:2018 standard.

1.2. Scope of the Declaration

This environmental product declaration describes environmental information relating to the life cycle of ALIER's cradle-to-gate, semi-stretchable valve sack paper, pressure filled.

The specific data of the production process of the products included in this LCA study come from ALIER's facilities in Roussillon and correspond to the production data of the year 2022, which is considered representative.

1.3. Life cycle and compliance.

This EPD has been developed and verified in accordance with UNE-EN ISO 14025:2010 and the following Category Rule:

INFORMATION ON PRODUCT CATEGORY RULES	
Heading	*Processed paper and paperboard product category*
Register / Version	PCR 2010:14 version 3.1
Issuing date	202-07-06
Programme Manager	The International EPD® System

This EPD may not be comparable with those developed in other Programmes or under different reference documents, in particular it may not be comparable with EPDs not developed under the same PCRs.

Similarly, EDPs may not be comparable if the source of the data is different (e.g., databases), not all relevant information modules are included, or if they are not based on the same scenarios.

1.4. Differences compared to previous versions of this EDP

This version is issued to correct an error in the allocation of energy

2. The product.

2.1. Product identification

This EDP includes the manufacture of paper for semi-stretchable sacks at ALIER's facilities located in Roselló (Lleida).

CPC Code: 32141

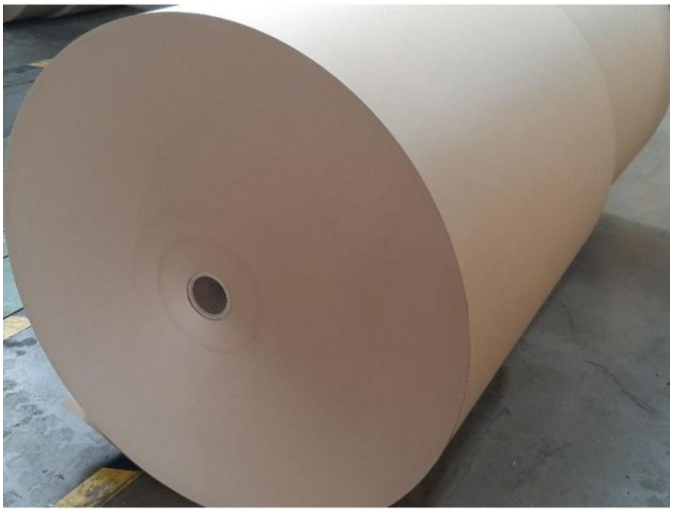
2.2. Product description

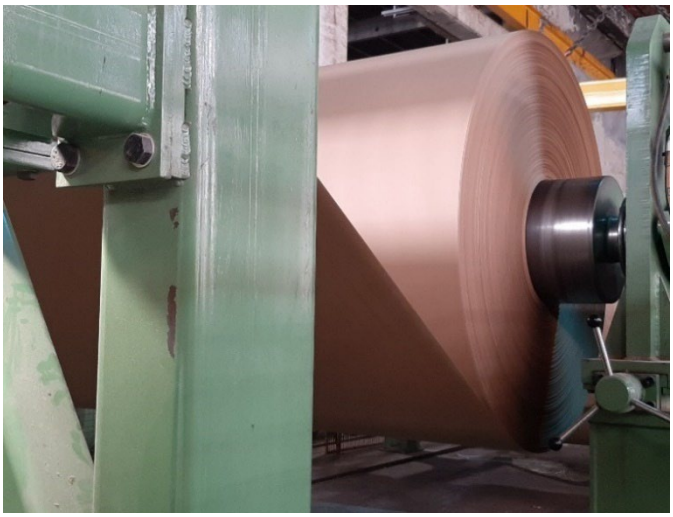
It is a 100% recycled two-ply paper with a transverse and longitudinal profile correction system for the production of valve bag paper. It is a Glued Paper on both sides, with elongation in MD and CD and mechanical tensile strength compensated between MD and CT (fibre orientation). It has a compensated TEA Index MD and CD, in order to ensure a high resistance to filling and handling of the filled bag. The high quality of ALIER paper gives the bags the mechanical and structural strength required by our customers.

2.3. Product composition

The composition declared by the manufacturer per declared unit, 1 tonne of product including packaging, is 100% recovered paper-cardboard with the corresponding denominations, taking into account the UNE- EN 643:2014 standard (European list of standard qualities of recovered paper and cardboard).

The manufacturer declares that no hazardous substances listed in the "*Candidate List of Substances of Very High Concern (SVHC) for authorization*" are used in the life cycle of ALIER's semi-stretchable sack paper in a percentage higher than 0.1% of the weight of the product.





2.4. Product characteristics

The manufacturer declares the following information on the technical specifications of the semi-stretch bags:

PAPER QUALITY SS								
TECHNICAL CHARACTERISTICS								
UNE/EN/ISO-536	**GRAMMAGE**	g/m²	**70**	75	**80**	85	90	
UNE/EN/ISO-287	Moisture content	%	7.5	7.5	7.5	7.5	7.5	+/- 1.5
UNE/EN/ISO-1924/2	Elongation MD	%	6.5	6.5	6.5	6.5	6.5	-15%
UNE/EN/ISO-1924/2	Elongation CD	%	9.0	9.0	9.0	9.0	9.0	-15%
UNE/EN/ISO-1924/2	Breaking Length MD	m	5.500	5.500	5.500	5.500	5.500	-15%
UNE/EN/ISO-1924/2	Breaking Length CD	m	4.500	4.500	4.500	4.500	4.500	-15%
UNE/EN/ISO-1924/2	TEA Index MD	J/g	2.00	2.00	2.00	2.00	2.00	-15%
UNE/EN/ISO-1924/2	TEA Index CD	J/g	2.50	2.50	2.50	2.50	2.50	-15%
UNE/EN-21974	Tear Index MD	mN m²/g	12.5	12.5	12.5	12.5	12.5	Indicative
UNE/EN-21974	Tear Index CD	mN m²/g	12.5	12.5	12.5	12.5	12.5	Indicative
EN/ISO-2758	Mullen Index	kPa m²/g	4.7	4.7	4.7	4.7	4.7	Indicative
UNE/EN/ISO-535	Cobb 60 T	g/m²	25	25	25	25	25	MAX. 40
UNE/EN/ISO-535	Cobb 60 B	g/m²	25	25	25	25	25	MAX. 40
UNE/ISO 5636-5	Gurley (air resistance)	S	24	26	28	30	30	Indicative
T815 om-01	C Slippage	º	22	22	22	22	22	-15%

UNE/EN/ISO-20187	SAMPLE CONDITIONING	
	Relative Humidity	50 +/- 2 %
	Temperature	23 +/-1°C

MD: Machine Direction
CD: Cross Direction
T: Top
B: Bottom

REMARKS: For the other grammages of the nominals indicated in the table, values of the grammage immediately below shall be applied.
Grammage tolerance ± 4% to 100 g/m², ± 3% to 200 g/m²

3. Information relative to LCA

3.1. Life cycle assessment

The Life Cycle Assessment Report for the EPP relative to ALIER S.A.'s semi-stretchable sack paper was carried out by the company Abaleo S.L. using the Ecoinvent 3.9.1 database and the SimaPro 9.5.0.0 software, which is the most up-to-date version available at the time the LCA was carried out.

Data from the ALIER plant, located in Roselló, Lleida (Spain), was used to carry out the study.

The LCA study follows the recommendations and requirements of the International Standards ISO 14040:2006, ISO 14044:2006 and PCR 2010:14 version 3.1, *Processed paper and paperboard*.

3.2. Scope of the study

The scope of this LCA is the manufacture of the cradle-to-gate paper for ALIER's semi-stretchable sack paper, including the following life cycle stages:

- Upstream
- Main process
- Downstream

3.3. Declared unit

The declared unit is 1 tonne (1,000 kg) of product plus packaging.
The product has a moisture content of 7.5% and a grammage ranging from 70 g/m^2 to 90 g/m^2

3.4. Reference Service Life (RSL)

The Reference Service Life (RSL) for semi-stretch sack paper does not apply, as it is a cradle-to-gate EDP.

3.5. Allocation criteria

According to the criteria of the reference standard:

1. Where possible, the product system has been extended to avoid the allocation of environmental impacts of multi-output unit processes.
2. Where it has not been possible to avoid allocation, an allocation of the inputs and outputs of the system has been made on a mass basis. This allocation criterion has been applied for electricity consumption, maintenance, cogeneration, WWTP and waste.

It has not been necessary to apply other allocation criteria, such as economic allocation.

3.6. Cut-off rule

As a general rule, according to the criteria of the reference standard, the gross weight/volume of all materials used in the manufacturing process has been included in the LCA, so that at least 99% of the weight of the declared unit is obtained.

There has been no exclusion of energy consumption.

3.7. Limits to the study

The following have not been included in the LCA:

- The treatment for fresh water and brown dye, which account for 0.0031% and 0.3513% by weight per declared unit, respectively, because there is no representative process for their production. Transport to the plant from the supplier has been included.
- All equipment with a useful life of more than 3 years.
- The construction of plant buildings and other capital goods.
- Staff travel for work; nor staff travel to and from work.

3.9. Representativeness, quality and selection of data

To model the manufacturing process of ALIER's semi-stretchable sack paper, production data for the year 2022, which is a period with representative production data, has been used for the plant located in Roselló (Lleida, Spain). The following data was obtained for this factory: consumption of materials and energy; transport; and waste generation.

Where necessary, the Ecoinvent 3.9.1 database (January 2023), which is the latest version available at the time of the LCA, has been used. For the inventory data, for modelling the LCA and for calculating the environmental impact categories required by the reference standard, SimaPro 9.5.0.0.0 software was used, which is the most up-to-date version available at the time of the study.

The following criteria were used to select the most representative processes:

- They had to be representative data of the technological development actually applied in the manufacturing processes. In case no information was available, a data representative of an average technology has been chosen.
- They had to be geographical data as close as possible and, where appropriate, regionalised means.
- The data had to be as up to date as possible.

To assess the quality of ALIER's semi-stretch sack paper production data, the semi-quantitative data quality assessment criteria proposed by the European Union in its Guide to the Environmental Footprint of Products and Organisations are applied. The results obtained are as follows:

- Very good integrity. Score 1.
- Good methodological appropriateness and coherence. Score 2.
- Very good time representativeness. Score 1.
- Good technological representativeness. Score 2.
- Very good geographical representation. Score 1.
- Low data uncertainty. Score 2.

Based on the above data, the Data Quality Rating (DQR) takes the following value: 9/6= 1.5, which indicates that the quality of the data is excellent.

For a better understanding of the assessment of data quality made, it is indicated that the score for each of the criteria varies from 1 to 5 (the lower the score, the higher the quality) and that the following table is applied to obtain the final score.

Overall Data Quality Rating (DQR)	Overall data quality level
≤ 1.6	Excellent quality
1.6 to 2.0	Very good quality
2.0 to 3.0	Good quality
3 to 4.0	Reasonable quality
> 4	Insufficient quality

4. System limits, scenarios and additional technical information.

4.1. Upstream processes.

This phase includes the processes of:

- Production of auxiliary products used in the main process.
- Production of pigments, additives and other chemicals used in the main process.
- Production of other raw materials used in the main process.
- Production of packaging used for transport (distribution packaging).
- Production of the electricity and fuel used in the main process.

4.2. Main process.

The main process considers:

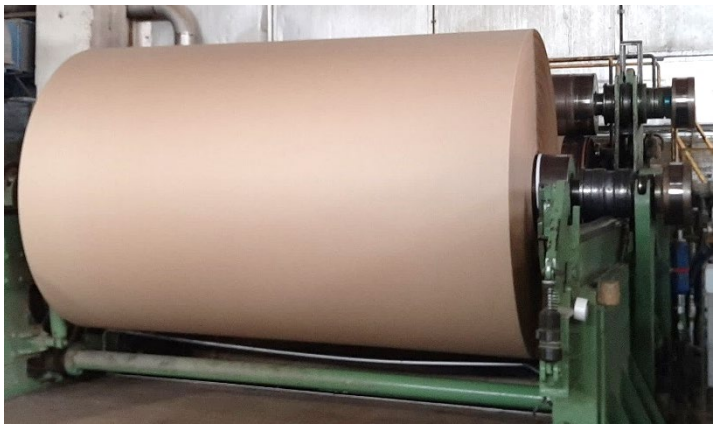
- The transport of raw and auxiliary materials to ALIER.
- The manufacturing process of semi-stretch sack paper.
- The treatment of the waste generated and its transport from the plant to the waste manager.

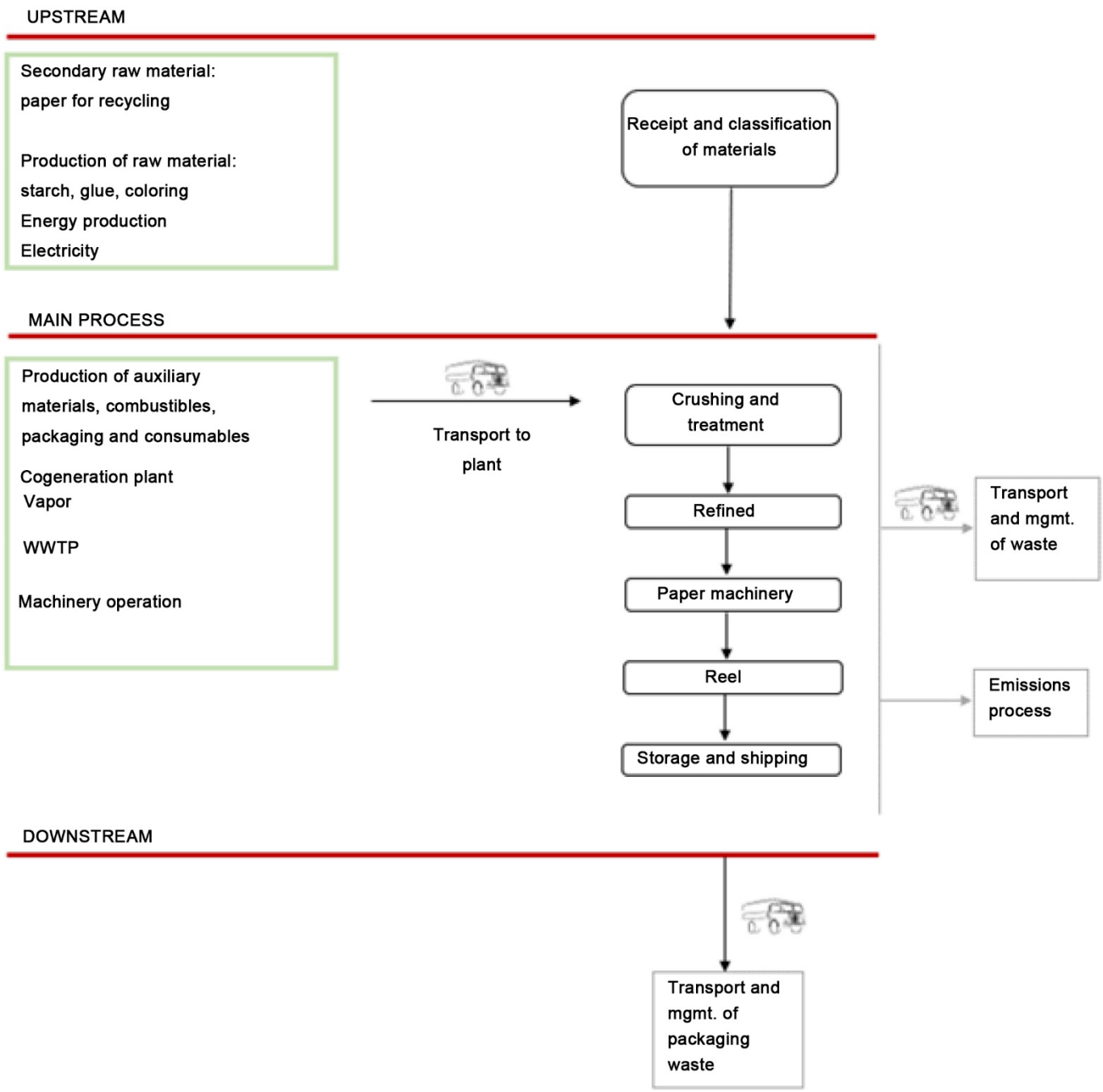
4.3. Downstream processes

Packaging waste is considered to be transported an average distance of 50 km to the nearest waste management point with EURO5 lorries of 16-32 tonnes.

The modelling of product packaging management has been carried out on the basis of the recycling, landfill and incineration rates determined in Annex C.V2.1 of the European Environmental Footprint:

Recycling rate	Plastics generic packaging	29%
	Wood	30%
	Steel packaging	80%
	Corrugated cardboard packaging	75%
Landfill waste tax Spain		86%
Waste incineration rate Spain		14%




UPSTREAM
Secondary raw material:
paper for recycling
Production of raw material:
starch, glue, coloring
Energy production
Electricity
Receipt and classification of materials
MAIN PROCESS
Production of auxiliary materials, combustibles, packaging and consumables
Cogeneration plant
Vapor
WWTP
Machinery operation
Transport to plant
Crushing and treatment
Refined
Paper machinery
Reel
Storage and shipping
Transport and mgmt. of waste
Emissions process
DOWNSTREAM
Transport and mgmt. of packaging waste

5. Declaration of the LCA and LCI Environmental Parameter.

Below are the different environmental parameters obtained from the Life Cycle Assessment (LCA) for the production of 1 tonne of ALIER's semi-stretchable sack paper.

The estimated impact results are relative and do not indicate the final value of the impact categories, nor do they refer to threshold values, safety margins or risks.

Environmental impacts.

Parameter	Units	Upstream	Main process	Downstream	Total
GWP-total	kg CO_2 eq	2.53E+02	4.66E+02	3.71E+00	7.23E+02
GWP-fossil	kg CO_2 eq	2.37E+02	4.66E+02	1.62E+00	7.05E+02
GWP-biogenic	kg CO_2 eq	7.34E-01	4.92E-02	2.09E+00	2.87E+00
GWP-luluc	kg CO_2 eq	1.45E+01	1.41E-01	1.84E-05	1.46E+01
ODP	kg CFC11 eq	9.15E-06	7.51E-05	2.18E-08	8.43E-05
AP	mol H+ eq	1.29E+00	2.78E-01	5.87E-03	1.57E+00
EP-freshwater	kg PO4 eq	1.10E-02	2.43E-02	1.90E-05	3.54E-02
EP-marine	kg N eq	3.07E-01	2.98E-01	7.37E-03	6.12E-01
EP-terrestrial	mol N eq	2.85E+00	8.56E-01	3.00E-02	3.73E+00
POCP	Kg NMVOC eq	9.25E-01	7.59E-01	1.35E-02	1.70E+00
ADP-minerals& metals	kg Sb eq	5.83E-04	1.92E-05	1.11E-08	6.02E-04
ADP-fossil	MJ	3.89E+03	6.54E+03	1.39E+01	1.04E+04
WDP	m^3 depriv.	1.65E+02	2.02E+02	6.52E-02	3.67E+02

GWP - total: Global warming potential; **GWP - fossil**: Global warming potential of fossil fuels; **GWP - biogenic**: Biogenic global warming potential; **GWP - luluc :** Global warming potential of land use and land use change; **ODP**: Stratospheric ozone depletion potential; **AP**: Acidification potential, cumulative surplus; **EP-freshwater**: Eutrophication potential, fraction of nutrients reaching the final freshwater compartment; **EP-marine**: Eutrophication potential, fraction of nutrients reaching the final marine water compartment; **EP-terrestrial**: Eutrophication potential, cumulative surplus; **POCP**: Tropospheric ozone formation potential; **ADP-minerals&metals** Abiotic resource depletion potential for non-fossil resources; **APD-fossil**: Abiotic resource depletion potential for fossil resources; **WDP**: Water deprivation potential (user), weighted water deprivation consumption.

Use of resources

Parameter	Units	Upstream	Main process	Downstream	Total
PERE	MJ	8.67E+02	3.33E+01	1.68E-01	9.01E+02
PERM*	MJ	4.33E+04	0.00E+00	0.00E+00	4.33E+04
PERT	MJ	4.41E+04	3.33E+01	1.68E-01	4.42E+04
PENRE	MJ	7.43E+03	6.60E+03	1.41E+01	1.40E+04
PENRM*	MJ	4.05E+01	0.00E+00	0.00E+00	4.05E+01
PENRT	MJ	7.47E+03	6.60E+03	1.41E+01	1.41E+04
SM	kg	2.57E+03	0.00E+00	0.00E+00	2.57E+03
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	3.29E+00	2.91E+00	2.85E-03	6.20E+00

PERE : Renewable primary energy use excluding renewable primary energy resources used as raw material; **PERM**: Use of renewable primary energy used as raw material; **PERT**: Total use of renewable primary energy; **PENRE**: Non-renewable primary energy use, excluding non-renewable primary energy resources used as raw material; **PENRM**: Use of non-renewable primary energy used as raw material; **PENRT**: Total non-renewable primary energy use; **SM**: Use of secondary materials; **RSF:** Use of renewable secondary fuels; **NRSF**: Use of non-renewable secondary fuels; **FW**: Net use of flowing water resources.

** Energy used as raw material is reported according to option B of the PCR 2019:14 - the energy used as raw material indicator reflects the energy used as raw material in product and packaging and is not further transferred in useful form to another product system.*

Waste categories

Parameter	Units	Upstream	Main process	Downstream	Total
HWD	kg	1.53E-02	3.04E-02	6.23E-05	4.58E-02
NHWD	kg	1.56E+01	3.61E+00	3.92E+00	2.31E+01
RWD	kg	4.93E-02	8.22E-04	2.71E-06	5.01E-02

HWD: Hazardous waste disposed of; **NHWD**: Non-hazardous waste disposed of; **RWD**: Radioactive waste disposed of.

Outflows

Parameter	Units	Upstream	Main process	Downstream	Total
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	4.80E+00	0.00E+00	4.80E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU: Components for re-use; **MFR**: Materials for recycling; **MER**: Materials for energy valuation; **EE**: Exported energy.

Biogenic carbon content

ALIER semi-stretchable sack paper and its packaging are made of biogenic carbon containing materials:

Biogenic carbon content	Units	Result per functional unit
Biogenic carbon content product	Kg C	5.00E+02
Biogenic carbon content packaging	Kg C	7.18E+00

6. Additional environmental information.

6.1. Indoor air emissions.

The manufacturer declares that the semi-stretchable sack paper generates no emissions to indoor air during its useful life.

6.2. Emissions to soil and water.

The manufacturer declares that the semi-stretch sack paper does not generate emissions to soil or water during its useful life.

6.3 Organisational Carbon Footprint.

ALIER with its commitment to fight against climate change, has been calculating the carbon footprint of its organisation since 2020 in accordance with the requirements of the UNE-EN ISO 14064- 1:2019 standard.

As part of its decarbonisation objectives, ALIER is implementing and will continue to implement in the coming years various projects to reduce its GHG emissions (installation of a biomass plant, installation of photovoltaic panels, etc.).

In addition, ALIER has registered its GHG emissions data from 2020 in the MITERD carbon footprint registry and is in the process of registering the data for 2022. ALIER is also adhered to the ACORDS VOLUNTARIS programme for the reduction of GHG emissions since 2021 and is in the process of renewing its commitment in 2022.

6.5 Other environmental issues.

It has an RD&I department focused on the development of new sustainable products and the search for solutions to recover and minimise process waste.

At the water level, a project is being developed with the aim of reducing consumption and achieving recovery and reuse within the production process to reduce consumption.

In 2022, the first edition of Alier's Corporate Social Responsibility Report is drafted, aligned with the requirements of law 11/2018 for the drafting of EINF reports, and considering the ISO 26000 guidelines in the analysis structure, the GRI indicator guidelines for information reporting, and linking the objectives and actions with the 2030 Agenda and the SDGs.

Furthermore, in 2022, the process of joining the ECOVADIS initiative for the qualification of suppliers in the field of sustainability began.

References

[1] General Rules of the GlobalEPD Programme, 2nd version. AENOR. February 2016

[2] PCR 2010:14. VERSION 3.1. PROCESSED PAPER AND PAPERBOARD PRODUCT CATEGORY CLASSIFICATION: UN CPC 3214, 32151. DATE 2022-07-06. VALID UNTIL: 2024-11-18

[3] Databases and environmental impact assessment methodologies applied through SimaPro 9.5.0.0.

[4] Standard UNE-EN ISO 14025:2010. Environmental labels and declarations. Type III environmental declarations. Principles and procedures. (ISO 14025:2006).

[5] Standard UNE-EN ISO 14040:2006/A1:2021. Environmental Management. Life Cycle Assessment. Principles and frame of reference. Modification 1. (ISO 14040:2006/Amd 1:2020).

[6] Standard UNE-EN ISO 14044:2006/A1:2021. Environmental Management. Life cycle assessment. Requirements and guidelines. Modification 2. (ISO 14044:2006/Amd 2:2020).

[7] Life Cycle Assessment Report for the EDP of ALIER S.A. semi-stretch sack paper, drafted by Abaleo S.L., November 2023. Version 1.

[8] COMMISSION RECOMMENDATION 2021/2279/EU of 15 December 2021 on the use of the Environmental Footprint to measure and communicate the life cycle environmental performance of products and organisations (Published in OJEU on 30/12/2021).

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