

Environmental Product Declaration

In accordance with ISO 14025 for:

FERRUL

from

ALESPRI



Programme:

Programme operator:

EPD registration number:

Publication date:

Revision date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

S-P-00438

2015-08-21

2021-11-23

2026-11-21

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at 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

Product category rules (PCR): PCR 2013:09 UN CPC 36490, 42999 Dispensing Systems. Version 2.2.1 2021-11-24.

PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members.
Review chair: Adriana Del Borghi. The review panel may be contacted via the Secretariat www.environdec.com/contact

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

☐ EPD process certification ☒ EPD verification

Third party verifier:

TECNALIA R&I Certificación S.L. Auditor: Cristina Gazulla Santos
Accredited by: ENAC. Accreditation no.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 from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: ALESPRI S.A - +34964467228 - www.alespri.com - Pol. Ind. Mercado Sector II, S/N - 12580 BENICARLÓ (Castelló) - Spain

Description of the organisation:

Alespri, company specialized in the stamping and anodizing of aluminium components for the perfumery, cosmetics and pharmacy sectors. The company was founded in 1984 and is currently a family business owned by the Prim family. They have driven the company for more than 30 years until today to become a leader in its sector, always innovating and firmly customer oriented.

The management of the Grupo Industrial Alespri is characterized by a clear customer service vocation, commitment to innovation, engagement of the organization with the operational excellence and a firm determination for continuous improvement. Grupo Industrial Alespri aims to become the reference point in the sector, strengthening a sustainable human development, an unbeatable customer service and a positive impact on society. Grupo Industrial Alespri is a family-owned company that strives to preserve and promote the values of integrity, passion, respect, communication and service, as an essential reference in the decision-making process and as a solid foundation for its competitive growth and sustainability.

For the Grupo Industrial Alespri the concept of "quality" has significance beyond that of the final control of the product. It is a philosophy, a new culture of the company that reaches all aspect of the production and service. Only in this way it is possible to guarantee quality over time. To have the ISO9000 Certification implies responsible work, following precisely requested requirements and systematically applying statistical requisites and procedural tools focusing on achieving progress and continuous improvement.

Grupo Industrial Alespri, committed to the preservation of the environment, disposes of the ISO14001 Certification and has established, on its own initiative, a set of mechanisms and processes directed to reduce the environmental impact, such as the reuse of chemical products in process, the implementation of equipment that minimizes the consumption of energy, the reduction of waste, among others.

In accordance with the company's commitment to the environment and with the aim of offering to our customers the maximum product quality, a "Life Cycle Assessment" has been carried out of the aluminum components more representative of the company: ferrules and actuator sheaths. The objective of this study is to know the impact that Alespri has on the environment, as well as the processes and materials used with higher environmental impact. The company has communicated, in an objective and transparent way, the environmental impact of the life cycle of their with the publication of two EPDs(Environmental Product Declaration) by means of The International EPD System.

Name and location of production site: The declared section Ferrul are produced by Alespri. The production plant is located in:

- Pol. Ind. Mercado Sector II, S/N –
12580 BENICARLÓ (Castelló) Spain

Product information

Product name: Ferrul

Product description: The product ferrul is a component manufactured entirely with anodized aluminium integrated into perfume bottles (100% by weight aluminium), whose function is to act as a support to the pump dispenser of the bottle. This product is manufactured by hook and bulk in a wide range of diameters:

DIAMETER (mm)	AVERAGE WEIGHT (kg)
11	3,39E-04
13	5,15E-04
15	5,73E-04
17	5,32E-04
18	6,82E-04
20	8,54E-04

More information about the product is available at: www.alespri.com

UN CPC code: 4229

Geographical Scope: Global

LCA information

Declared unit: One-piece ferrule dispensing system with a diameter between 11mm and 20mm

Time representativeness: primary data from manufacturing site refer to year 2019.

Database(s) and LCA software used: Ecoinvent v3.6 (allocation, cut-off by classification - 2019) database and SimaPro 9.2 software have been used for the LCA calculations.

Cut off rules: In the case of insufficient or missing input data for a unit process, the cut-off criteria should be 1% of the primary renewable and non-renewable energy use and 1% of the total mass input to the unit process. The total input flows not considered per module should be 5% of the energy use and mass. Thus, as a cut-off rule, it is stipulated that as a minimum, the inventory data shall total 99% of the total mass and energy use of each unit process and 95% of each module.

Description of system boundaries: The presented EPD® includes the next life cycle stages: Upstream Processes, Production Stage (Core Processes) and Downstream Processes.

A Life Cycle Analysis study has been conducted from cradle to gate with options.

Upstream module:

- Extraction and processing of raw materials, manufacture of aluminum used as raw material for ferrule product.
- Stamping process: through mechanical presses and dies and punches - all oil lubricated - the metal parts are obtained according to design

Core module: Product manufacturing process, manufacturing of packagings, treatment of waste produced during manufacture and transport of auxiliary materials to the facility.

- Transport from the manufacturer to the production plants.
- Degreasing: immersion in a detergent product for the removal of lubricating oil
- Polishing: immersion in a highly concentrated acid product at 100°C in order to achieve the specular shining of the surface. Includes washing by water immersion in a triple counter-current waterfall
- Anodizing: immersion in a sulfuric acid electrolyte with electrical current to produce the anodic oxidation of the aluminum surface (opening the pores of the metal). Includes washing by immersion in counter-current well water cascade
- Color process: immersion in colorant to obtain the desired color. Includes washing by immersion in counter-current water cascade.
- Sealing: immersion in boiling deionized water for rehydration of the anodic layer (closing the pores). Includes washing by immersion in counter-current deionized water cascade.
- Drying: drying of pieces through hot-air ovens.
- Verification: electronic control of the pieces to ensure quality.
- Expedition: preparation of documentation to send the product to the customer and packaging
- Wastewater and air treatment
- Treatment of solid waste generated in the factory
- Transport: transportation of auxiliary materials to the factory
- Other energy consumption: lighting and air conditioning of the factory

Downstream module:

- Transportation of the product to the end customer
- Packaging end-of-life

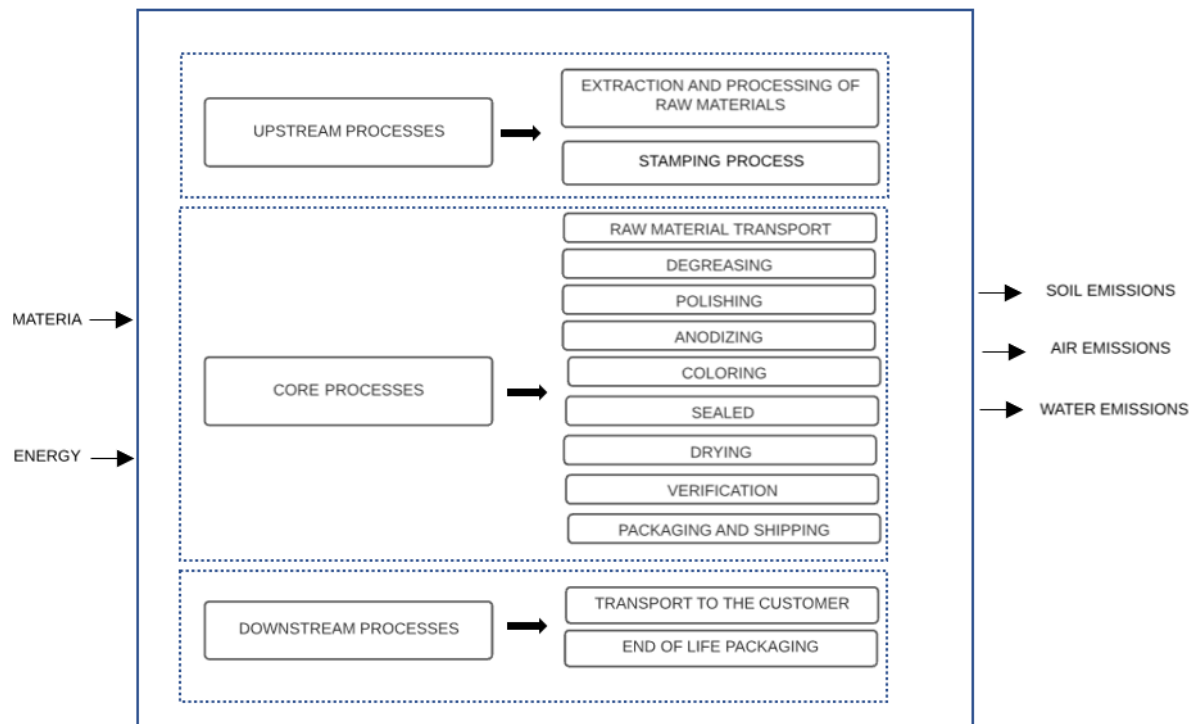
The next processes have not been considered:

- The manufacturing of capital goods with expected lifetime over three years, (machines, buildings and other capital goods).
- Maintenance activities
- Workers transportation (home-factory-home journey)

Additional information:

SCENARIO INFORMATION	VALUE/DESCRIPTION
Vehicle type used for transport	Long distance truck Transoceanic cargo ship
Vehicle load capacity	Truck: 32 tones
Fuel type and consumption	Truck: 31,1L/100 km Cargo ship: 0,0014L/100 TnKm
Distance to client	Truck: 894 km Cargo ship: 1040km

System diagram:



Excluded lifecycle stages: It has not been considered the end of life of the product, since it does not depend on Alespri S.A., but it depends on the perfume's bottle manufacturer which integrates the product ferrul.

More information:

- The underlying LCA study has been carried out by Marcel Gomez Consultoría Ambiental
- More information about the product is available at: <http://www.alespri.com>

Content declaration

Material	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Aluminium	5,83E-04	0	0
Packaging materials	Weight, kg	Weight-% (versus the product)	
Corrugated cardboard	3,55E-05	<6%	
Packaging film (Low Density Polyethylene)	4,06E-06		

Substances of Very High Concern (SVHC), as described on the REACH stands for Registration, Evaluation, Authorisation and Restriction of Chemicals have not been used in the manufacture of ferrul.

Environmental Information

Potential environmental impact 11mm

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	3,76E-09	2,84E-09	3,03E-11	6,63E-09
	Biogenic	kg CO ₂ eq.	1,09E-10	3,52E-10	1,63E-13	4,61E-10
	Land use and land transformation	kg CO ₂ eq.	1,13E-11	1,31E-11	1,09E-14	2,44E-11
	TOTAL	kg CO ₂ eq.	3,88E-09	3,20E-09	3,05E-11	7,11E-09
Acidification potential (AP)		kg SO ₂ eq.	1,94E-11	2,09E-11	1,59E-13	4,05E-11
Eutrophication potential (EP)		kg PO ₄ ³⁻ eq.	1,85E-12	3,68E-12	1,90E-14	5,55E-12
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	1,31E-11	9,03E-12	1,62E-13	2,23E-11
Abiotic depletion potential – Elements		kg Sb eq.	1,57E-12	1,79E-13	5,11E-16	1,75E-12
Abiotic depletion potential – Fossil resources		MJ, net calorific value	3,86E-08	3,10E-08	4,76E-10	7,01E-08
Water scarcity potential		m ³ eq.	8,76E-10	3,75E-09	1,52E-12	4,63E-09

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	5,96E-09	8,30E-09	5,85E-12	1,43E-08
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	5,96E-09	8,30E-09	5,85E-12	1,43E-08
Primary energy resources –	Use as energy carrier	MJ, net calorific value	4,52E-08	4,38E-08	4,85E-10	8,95E-08

Non-renewable	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	4,52E-08	4,38E-08	4,85E-10	8,95E-08
Secondary material		kg	0	0	0	0
Renewable secondary fuels		MJ, net calorific value	0	0	0	0
Non-renewable secondary fuels		MJ, net calorific value	0	0	0	0
Net use of fresh water		m³	8,11E-04	2,63E-05	3,13E-06	8,40E-04

Waste production and output flows

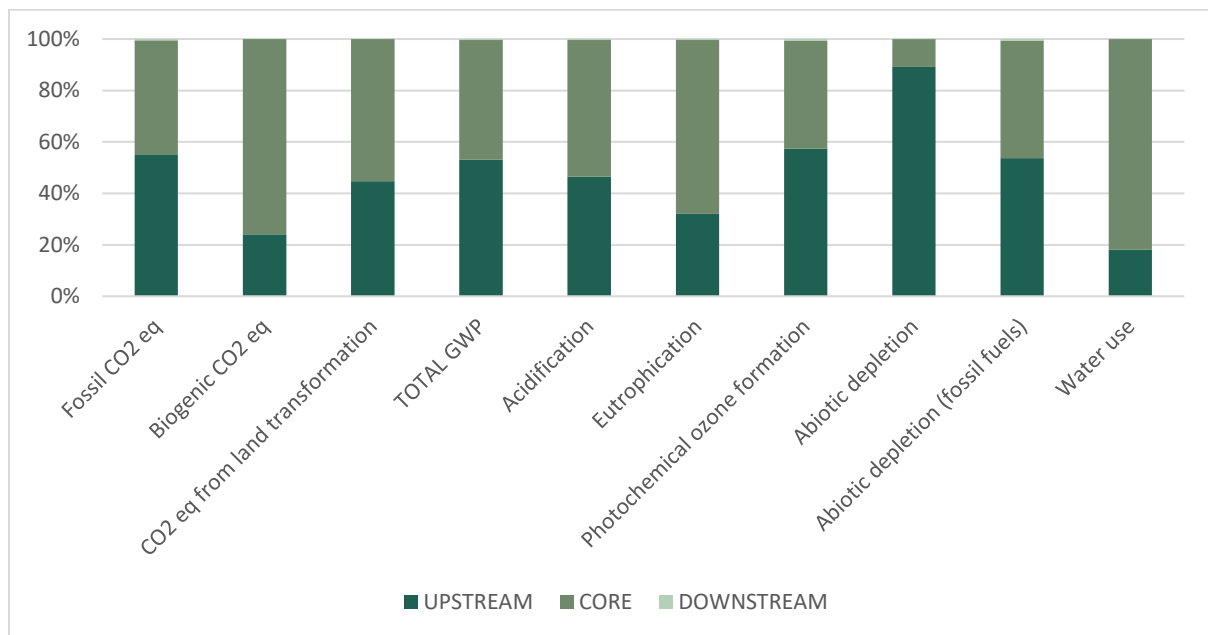
Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	3,82E-12	5,28E-14	1,11E-15	3,88E-12
Non-hazardous waste disposed	kg	6,77E-10	2,75E-09	3,83E-11	3,46E-09
Radioactive waste disposed	kg	1,39E-13	2,31E-13	3,31E-15	3,73E-13

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	0	1,59E-02	6,80E-02	8,39E-02
Materials for energy recovery	kg	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0

In general terms, as it is shown in the table of potential environmental impact, and figure results impact categories, the results show the highest impact distributed between upstream and core processes. Finally, Downstream module has little impact too, representing less than 1% of the whole impact. The life cycle has an impact of 7,11E-09kg of CO2 equivalent.



Results on impact categories

Potential environmental impact 13mm – 15mm – 17mm

Since the difference in environmental impact is equal or less than 10% for 13mm, 15mm and 17mm ferrul, the following information is valid for the EPD results of all elements

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	5,71E-09	4,31E-09	4,61E-11	1,01E-08
	Biogenic	kg CO ₂ eq.	1,66E-10	5,35E-10	2,48E-13	7,01E-10
	Land use and land transformation	kg CO ₂ eq.	1,71E-11	1,99E-11	1,66E-14	3,71E-11
	TOTAL	kg CO ₂ eq.	5,90E-09	4,87E-09	4,63E-11	1,08E-08
Acidification potential (AP)		kg SO ₂ eq.	2,95E-11	3,17E-11	2,42E-13	6,15E-11
Eutrophication potential (EP)		kg PO ₄ ³⁻ eq.	2,82E-12	5,59E-12	2,89E-14	8,44E-12
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	2,00E-11	1,37E-11	2,46E-13	3,39E-11
Abiotic depletion potential – Elements		kg Sb eq.	2,39E-12	2,72E-13	7,77E-16	2,67E-12
Abiotic depletion potential – Fossil resources		MJ, net calorific value	5,87E-08	4,71E-08	7,24E-10	1,07E-07
Water scarcity potential		m ³ eq.	1,33E-09	5,70E-09	2,31E-12	7,03E-09

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	9,06E-09	1,26E-08	8,89E-12	2,17E-08
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	9,06E-09	1,26E-08	8,89E-12	2,17E-08
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	6,87E-08	6,66E-08	7,37E-10	1,36E-07
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	6,87E-08	6,66E-08	7,37E-10	1,36E-07

Secondary material	kg	0	0	0	0
Renewable secondary fuels	MJ, net calorific value	0	0	0	0
Non-renewable secondary fuels	MJ, net calorific value	0	0	0	0
Net use of fresh water	m ³	8,11E-04	2,63E-05	3,13E-06	8,40E-04

Waste production and output flows

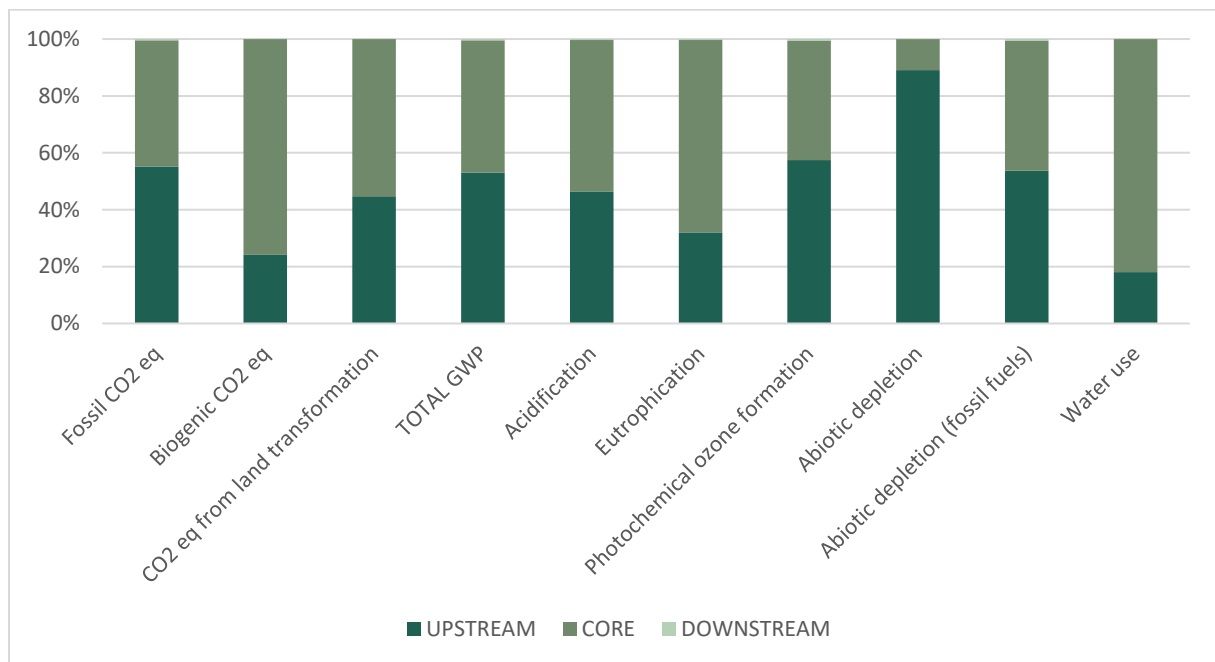
Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	5,81E-12	8,03E-14	1,69E-15	5,89E-12
Non-hazardous waste disposed	kg	1,03E-09	4,18E-09	5,83E-11	5,27E-09
Radioactive waste disposed	kg	2,12E-13	3,50E-13	5,04E-15	5,67E-13

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	0	1,59E-02	6,80E-02	8,39E-02
Materials for energy recovery	kg	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0

In general terms, as it is shown in the table of potential environmental impact, and figure results impact categories, the results show the highest impact distributed between upstream and core processes. Finally, Downstream module has little impact too, representing less than 1% of the whole impact. The life cycle has an impact of 1,08E-08kg of CO2 equivalent.



Results on impact categories

Potential environmental impact 18mm

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	7,58E-09	5,72E-09	6,11E-11	1,34E-08
	Biogenic	kg CO ₂ eq.	2,20E-10	7,09E-10	3,29E-13	9,29E-10
	Land use and land transformation	kg CO ₂ eq.	2,27E-11	2,64E-11	2,20E-14	4,91E-11
	TOTAL	kg CO ₂ eq.	7,82E-09	6,45E-09	6,14E-11	1,43E-08
Acidification potential (AP)		kg SO ₂ eq.	3,91E-11	4,21E-11	3,21E-13	8,15E-11
Eutrophication potential (EP)		kg PO ₄ ³⁻ eq.	3,73E-12	7,41E-12	3,83E-14	1,12E-11
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	2,64E-11	1,82E-11	3,26E-13	4,50E-11
Abiotic depletion potential – Elements		kg Sb eq.	3,17E-12	3,60E-13	1,03E-15	3,53E-12
Abiotic depletion potential – Fossil resources		MJ, net calorific value	7,78E-08	6,25E-08	9,59E-10	1,41E-07
Water scarcity potential		m ³ eq.	1,76E-09	7,56E-09	3,06E-12	9,32E-09

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1,20E-08	1,67E-08	1,18E-11	2,87E-08
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	1,20E-08	1,67E-08	1,18E-11	2,87E-08
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	9,10E-08	8,82E-08	9,76E-10	1,80E-07
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	9,10E-08	8,82E-08	9,76E-10	1,80E-07
Secondary material		kg	0	0	0	0

Renewable secondary fuels	MJ, net calorific value	0	0	0	0
Non-renewable secondary fuels	MJ, net calorific value	0	0	0	0
Net use of fresh water	m ³	8,11E-04	2,63E-05	3,13E-06	8,40E-04

Waste production and output flows

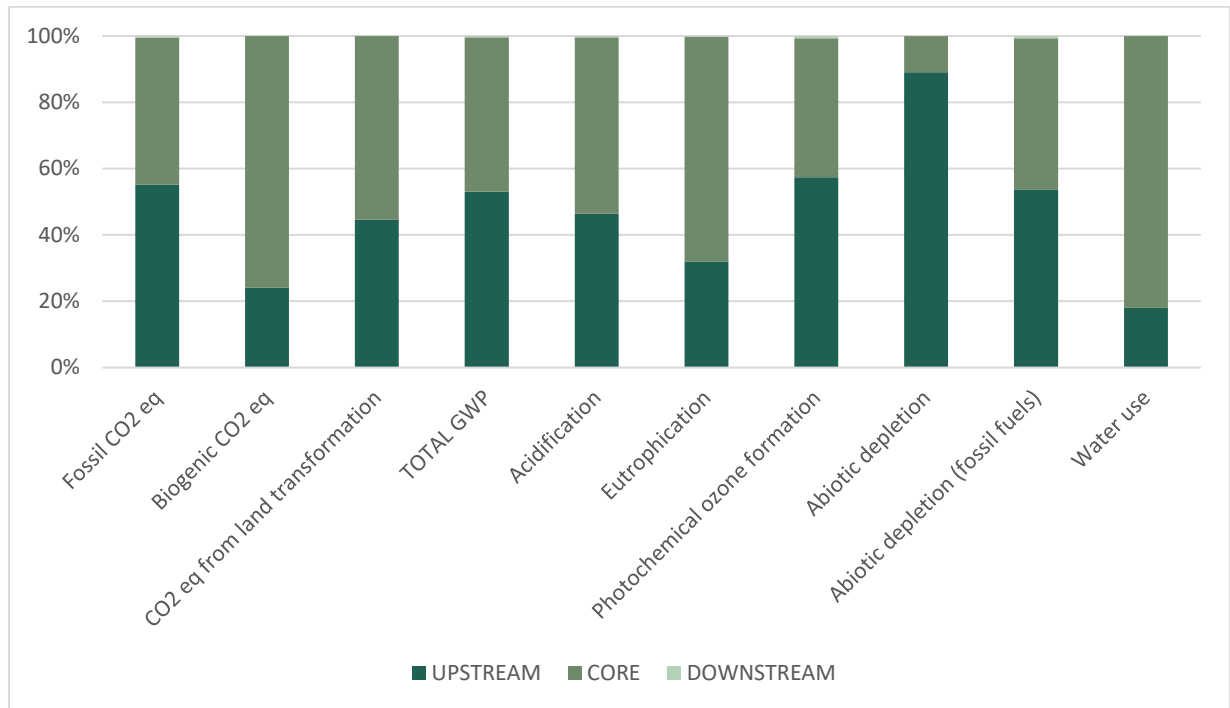
Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	7,70E-12	1,06E-13	2,24E-15	7,81E-12
Non-hazardous waste disposed	kg	1,36E-09	5,54E-09	7,72E-11	6,98E-09
Radioactive waste disposed	kg	2,80E-13	4,65E-13	6,68E-15	7,52E-13

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	0	1,59E-02	6,80E-02	8,39E-02
Materials for energy recovery	kg	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0

In general terms, as it is shown in the table of potential environmental impact, and figure results impact categories, the results show the highest impact distributed between upstream and core processes. Finally, Downstream module has little impact too, representing less than 1% of the whole impact. The life cycle has an impact of 1,43E-08kg of CO2 equivalent.



Results on impact categories

Potential environmental impact 20mm

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	9,48E-09	7,15E-09	7,64E-11	1,67E-08
	Biogenic	kg CO ₂ eq.	2,75E-10	8,87E-10	4,12E-13	1,16E-09
	Land use and land transformation	kg CO ₂ eq.	2,84E-11	3,30E-11	2,76E-14	6,15E-11
	TOTAL	kg CO ₂ eq.	9,78E-09	8,07E-09	7,69E-11	1,79E-08
Acidification potential (AP)		kg SO ₂ eq.	4,90E-11	5,26E-11	4,01E-13	1,02E-10
Eutrophication potential (EP)		kg PO ₄ ³⁻ eq.	4,67E-12	9,27E-12	4,79E-14	1,40E-11
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	3,31E-11	2,28E-11	4,08E-13	5,63E-11
Abiotic depletion potential – Elements		kg Sb eq.	3,97E-12	4,51E-13	1,29E-15	4,42E-12
Abiotic depletion potential – Fossil resources		MJ, net calorific value	9,73E-08	7,82E-08	1,20E-09	1,77E-07
Water scarcity potential		m ³ eq.	2,21E-09	9,46E-09	3,82E-12	1,17E-08

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1,50E-08	2,09E-08	1,47E-11	3,60E-08
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	1,50E-08	2,09E-08	1,47E-11	3,60E-08
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1,14E-07	1,10E-07	1,22E-09	2,26E-07
	Used as raw materials	MJ, net calorific value	0	0	0	0
	TOTAL	MJ, net calorific value	1,14E-07	1,10E-07	1,22E-09	2,26E-07
Secondary material		kg	0	0	0	0

Renewable secondary fuels	MJ, net calorific value	0	0	0	0
Non-renewable secondary fuels	MJ, net calorific value	0	0	0	0
Net use of fresh water	m ³	8,11E-04	2,63E-05	3,13E-06	8,40E-04

Waste production and output flows

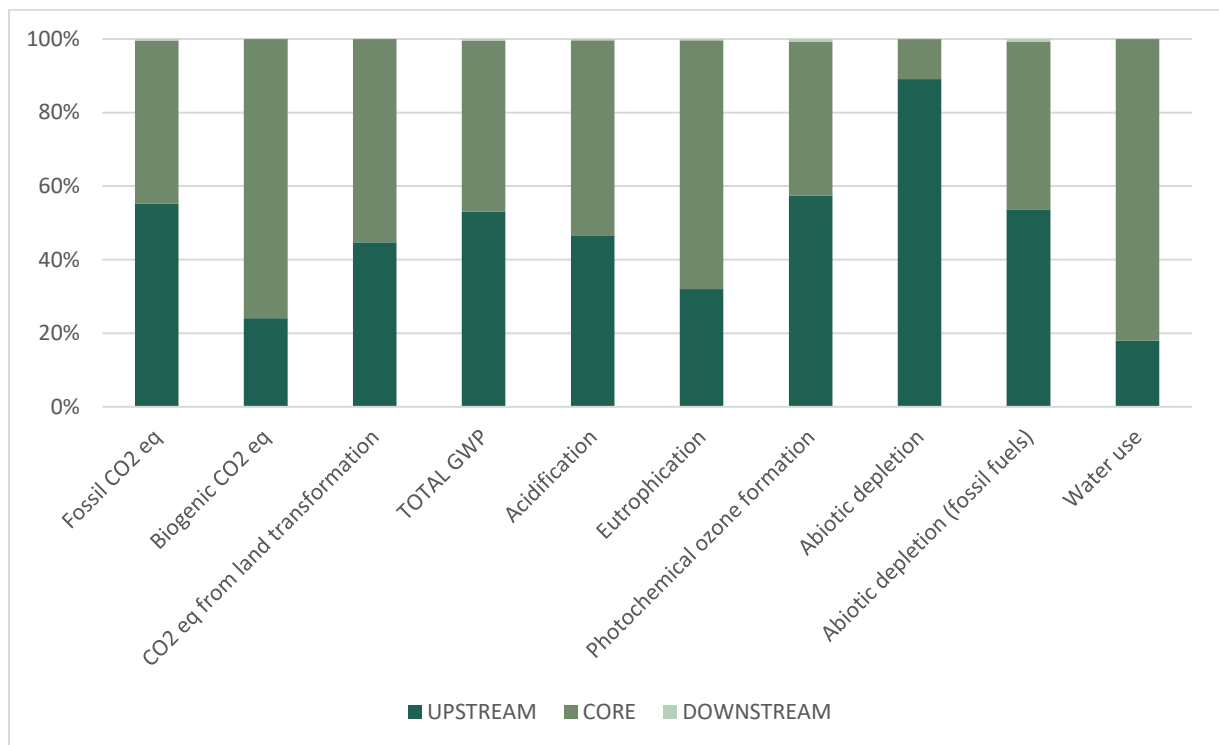
Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	9,64E-12	1,33E-13	2,80E-15	9,77E-12
Non-hazardous waste disposed	kg	1,71E-09	6,93E-09	9,67E-11	8,74E-09
Radioactive waste disposed	kg	3,51E-13	5,81E-13	8,36E-15	9,41E-13

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	0	1,59E-02	6,80E-02	8,39E-02
Materials for energy recovery	kg	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0

In general terms, as it is shown in the table of potential environmental impact, and figure results impact categories, the results show the highest impact distributed between upstream and core processes. Finally, Downstream module has little impact too, representing less than 1% of the whole impact. The life cycle has an impact of 1,79E-08kg of CO2 equivalent.



Results on impact categories

Information related to Sector EPD

This is not a sector EPD.

Differences versus previous versions

- Electricity production mix of Spain updated to 2019
- The flocculant Ecopol AL 60 has been replaced by FLOPAM TW945 from the SNF IBERICA.
- Total production has been update
- Data interpretation update

References

- General Programme Instructions of the International EPD® System. Version 3.01.
- PCR 2013:09 UN CPC 36490, 42999 Dispensing Systems. Version 2.2 2019-11-21.
- ISO 14040:2006: Environmental Management-Life Cycle Assessment-Principles and framework.
- ISO 14044:2006: Environmental Management-Life Cycle Assessment-Requirements and guidelines.
- ISO 14025:2006: Environmental labels and declarations-Type III Environmental Declarations-Principles and procedures.
- ISO 14020:2000: Environmental labels and declarations — General principles.
- LCA ALESPRI

VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD06102

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

TECNALIA R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

ALESPRI S.A.

**Pol. Ind. Mercado Sector II, s/n
12580 BENICARLÓ (Castelló) (SPAIN)**

for the following product(s):
para el siguiente(s) producto(s):

**ANODIZED ALUMINUM ONE-PIECE FERRULE DISPENSING SYSTEM
with a diameter between 11 mm and 20 mm.
SISTEMA DE DISPENSACIÓN DE FERULAS DE UNA PIEZA DE
ALUMINIO ANODIZADO, con un diámetro entre 11 mm y 20 mm.**

with registration number **S-P-00438** in the International EPD® System (www.environdec.com)
con número de registro **S-P-00438** en el Sistema Internacional 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 v.3.01.**
- **PCR 2013:09 Dispensing Systems v.2.2.1 2021-11-24.**
- **UN CPC 36940 Dispensing Systems.**
- **UN CPC 42999 Metal goods.**

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Manager

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