

# EPD\_Environmental Product Declaration

MESA\_VitalPlus300Gen

Ref\_V33F0000T

Fecha de Informe 05.04.2018

## Certificates

ISO 9001:2008

ISO 14001:2004

ISO 14006. Ecodesign

PEFC. Programme for the Endorsement of Forest Certification

FSC. Forest Stewardship Council

GBCe. Green Building Council Spain



## 1. Details of the system

Type New Product ☒ Redesign ☐ Studied Year 2017

Declaration Scope: From extraction of raw materials to complete desk solution, including end of life.  
The detail of each of the phases considered and its scope is included below

Materials	Production	Transport	Use	End of life
Including the extraction and processing of raw materials and component sourcing to its delivery at the Actiu Technological Park.	Consider the production and assembly processes used in Actiu.	Includes from the Actiu Technological Park to our customers facilities. Transport is provided through tight commercial transport.	This stage has not environmentally relevance for life cycle analysis.	Any product can be disposed of in different ways, or become a resource. Drawing on national average dates, it is supposed that aluminium, wood and cardboard packaging is recycled, while the rest is treated as urban waste.

## 2. RAW MATERIALS USED FOR THE PRODUCT. Product specifications, including packaging

	KG of product solution	Percentage %	Quality of finishes	
			Production of raw materials	Processed
Steel 100% rec.	2,895	3,04%	Bibliographic data	Bibliographic data
Steel (SIMAPRO HAI)	19,251	20,22%	Bibliographic data	Bibliographic data
Carton	10,080	10,59%	Bibliographic data	Bibliographic data
Melamine	58,461	61,41%	Bibliographic data	Bibliographic data
Plastic PS	3,966	4,17%	Bibliographic data	Bibliographic data
<b>TOTAL</b>	<b>94,653</b>	<b>99,43%</b>		
<b>% recycled materials</b>		<b>53,03%</b>		
<b>% recyclable materials</b>		<b>95,27%</b>		

ACTIU product design is made to facilitate the separation of its components and recycling.

The product is designed to help companies LEED® certification. You can obtain LEED® credits with our product. On the one hand, contains a high percentage of recycled materials and is manufactured with low emissions to the atmosphere. On the other hand, has been designed with ergonomic standards. Finally, it can be easily recycled because it is designed for disassembly and identification of very simple components. This will help you achieve LEED® credits for employee health and innovation

The verification process life cycle analysis is performed by independent experts in Ecodesign (Consultant Business Area) and using the criteria of the standard UNE ISO 14006 "Ecodesign".

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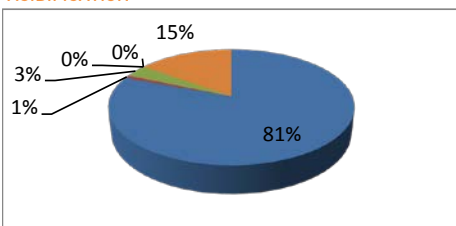
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## 3. Impacts produced by category. Five substances area included in each category have the greatest impact in each category

### Impact category

#### ACIDIFICATION

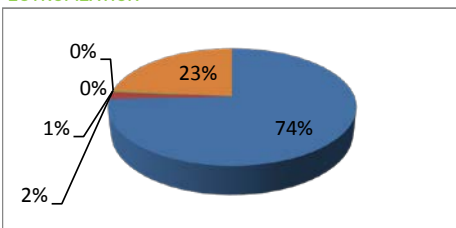


Substance	Unit	Total
Remaining substances	kg SO2 eq	3,340646759
Ammonia	kg SO2 eq	0,034275016
Nitrogen dioxide	kg SO2 eq	0,1439739
Nitrogen oxides	kg SO2 eq	1,3925E-262
Sulfur dioxide	kg SO2 eq	1,63152E-09
Sulfur oxides	kg SO2 eq	0,617829754

**TOTAL** **kg SO2 eq** **1,86715E-06**

### Impact category

#### EUTROFIZATION

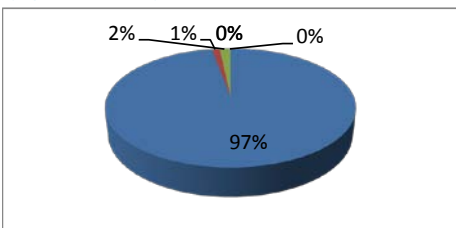


Substance	Unit	Total
Remaining substances	kg PO4--- eq	0,429367338
Ammonia	kg PO4--- eq	0,011837271
Dinitrogen monoxide	kg PO4--- eq	0,002661701
Nitrogen dioxide	kg PO4--- eq	1,3925E-262
COD, Chemical Oxygen Demand	kg PO4--- eq	0,000188543
Ammonium, ion	kg PO4--- eq	0,135150259

**TOTAL** **kg SO2 eq** **8,78277E-08**

### Impact category

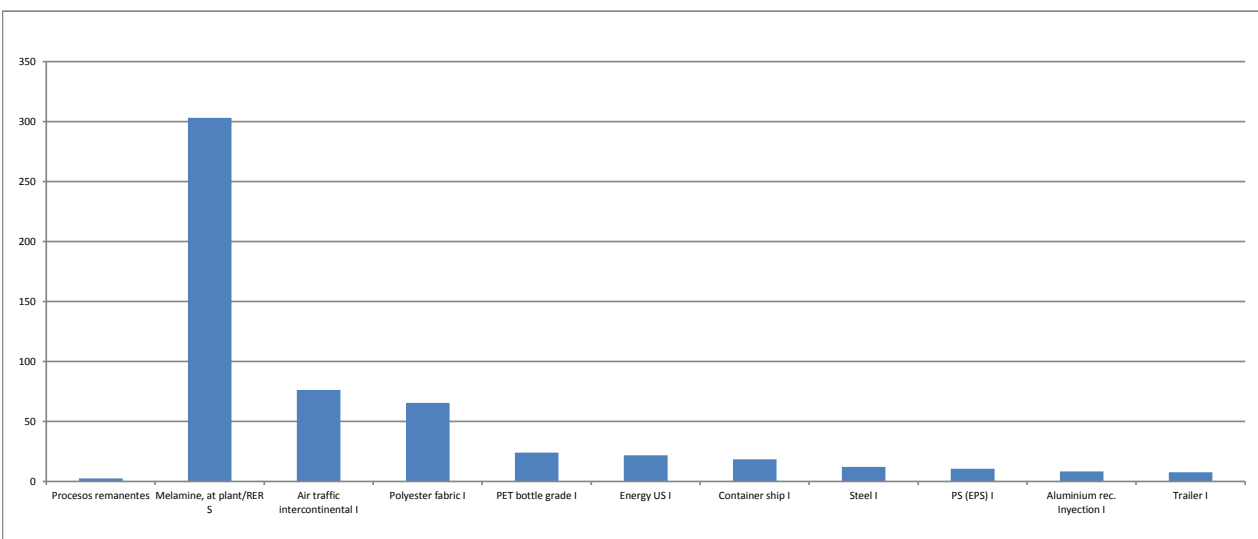
#### GLOBAL WARMING



Substance	Unit	Total
Remaining substances	kg CO2 eq	561,5037899
Carbon dioxide	kg CO2 eq	6,762643293
Carbon dioxide, fossil	kg CO2 eq	9,822879746
Carbon monoxide	kg CO2 eq	1,3925E-262
0	0	0
0	0	0

**TOTAL** **kg CO2 eq** **0,000252223**

## Impact of group elements (materials, processes, energy, use, transport and waste)



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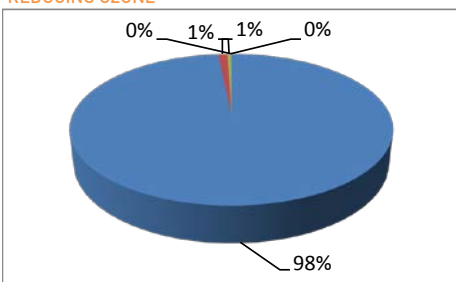
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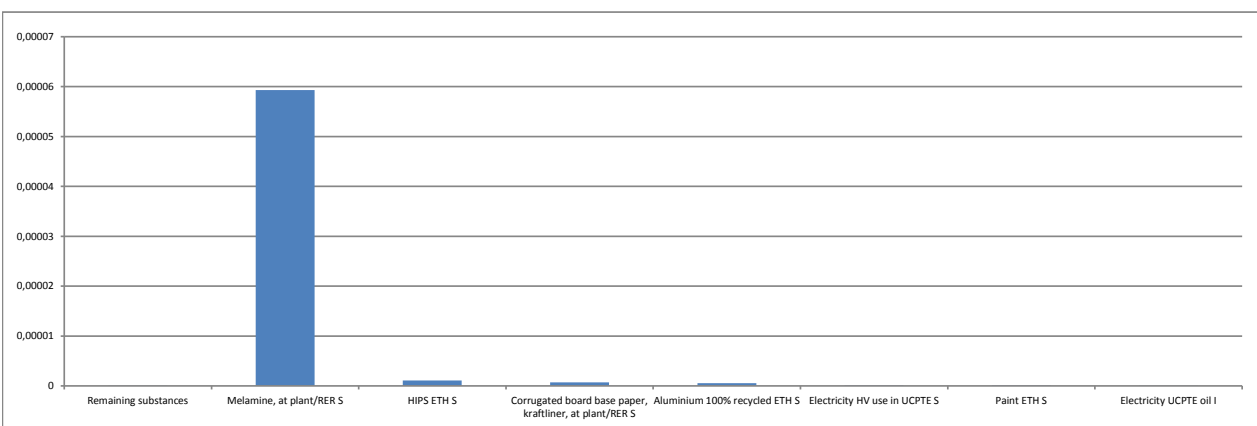
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## 4. Impacts produced by category. Five substances area included in each category have the greatest impact in each category

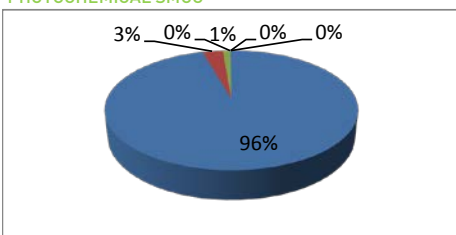
Impact category	Substance	Unit	Total
REDUCING OZONE	Remaining substances	kg CFC-11 eq	6,1013E-05
	Methane, bromochlorodifluoro-, Halon 1211	kg CFC-11 eq	7,05518E-07
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	2,81987E-07
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	1,3925E-262
		0	0
		0	0
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>3,44804E-10</b>



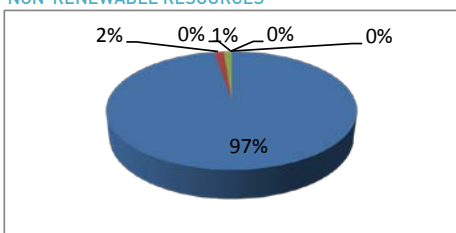
## Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining substances	kg C2H4 eq	0,536213005
	Carbon monoxide	kg C2H4 eq	0,017256003
	Butane	kg C2H4 eq	0,00641928
	Toluene	kg C2H4 eq	0,000578134
	NMVOC, non-methane volatile orgai	kg C2H4 eq	0,000522221
	Pentane	kg C2H4 eq	9,93529E-06
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>1,25924E-06</b>



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining substances	MJ eq	9313,566943
	Coal, 29.3 MJ per kg, in ground	MJ eq	142,6676765
	Coal, 18 MJ per kg, in ground	MJ eq	118,5695645
	Gas, natural, in ground	MJ eq	1,3925E-262
	Coal, brown, in ground	MJ eq	1,3925E-262
	Uranium ore, 1.11 GJ per kg, in grou	MJ eq	1,3925E-262
	<b>TOTAL</b>	<b>kg SO2 eq</b>	<b>0,006446808</b>



WASTE	Total NO HAZARDOUS	KG	25,9
	Total HAZARDOUS	KG	0,173

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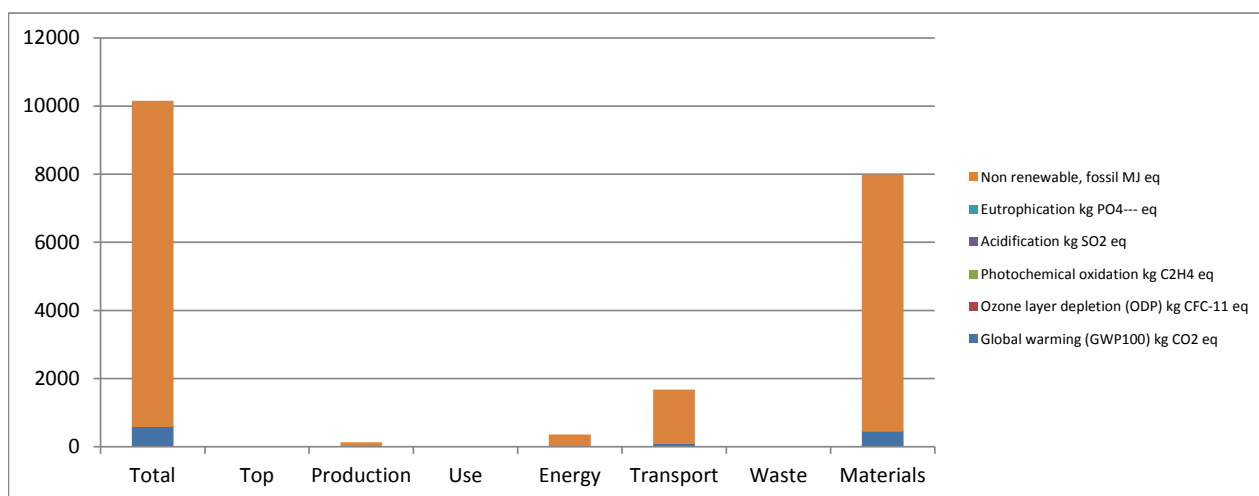
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## 5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Category	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming (GWP100)	kg CO2 eq	578,0895651	0	8,575527159	0	25,35586771	93,17	0	451
Ozone layer depletion (ODP)	kg CFC-11 eq	6,20008E-05	0	1,15939E-07	0	2,22317E-07	3E-10	0	6E-05
Photochemical oxidation	kg C2H4 eq	0,559889547	0	0,015823982	0	0,006968953	0,076	0	0,461
Acidification	kg SO2 eq	3,518897543	0	0,135530701	0	0,108763429	0,331	0	2,944
Eutrophication	kg PO4--- eq	0,443866398	0	0,00139548	0	0,006733197	0,065	0	0,371
Non renewable, fossil	MJ eq	9574,810631	0	120,2388726	0	335,2627768	1583	0	7536



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## 6. Ecodesign improvements considered.

ACTIU products are designed considering different environmental strategies. According to their level of complexity, the strategies used are classified into one of the following. Here are some of the choices for ecodesign significant product.

PRODUCT STRATEGY ECODESIGN	CHOICES
Low impact materials selection	Designed to be manufactured with 53,03% recycled materials
	100% recycled aluminium
	Powder paint with no VOC emissions
	Limitation on use of hazardous substances. Without chromium, mercury, cadmium
Optimization of product techniques	Recycled cardboard packaging
	Optimizing energy use throughout the production process
	Low manufacturing energy consumption. Minimum environmental impact.
	Painting processes of high technology systems.
	Recovery unused paint in the process. Zero emissions of VOCs.
Optimization of distribution system	Closed water circuits. Heat recovery.
	Optimization of energy use in the manufacturing process: Heat recovery in the painting process, automated manufacturing systems to save energy.
	Embalaje en bultos planos para optimización espacio.
Optimization of product life	Sistema modular para máximo aprovechamiento y combinación de diferentes modelos del programa
	15 years minimum duration product
	Easy maintenance and cleaning of the product. It is easily cleaned with a damp cloth with water.
Optimization of the end of system life	The product is part of a modular program. Easy to modify, extend and repair to optimize its useful life.
	Easy separation of product components
	High degree of recyclability of the product: 95,27%
	Packaging reuse system between ACTIU and its providers to avoid waste generation

## Bibliography and references

ISO 14025 Environmental labels and declarations – Type III

UNE-EN-ISO ISO 14006 "Ecodesign".

ISO 14006 "Ecodesign"

UNE ISO 14006 "Ecodesign"

Environmental impacts methods

Data base: ETH-ESU System processes, Ecoinvent system processes, IDEMAT, EDIP, IPCC, Ecological Scarcity 2006.