Environmental Product Declaration

In accordance with ISO 14020 / ISO 14025 for:

GREEN BOX G50 / G70 / G100

from

GREEN BOX S.L.

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-04534
Publication date:	2021-09-16
Revision date:	2022-01-31
Valid until:	2027-01-30

Modelo G50 (80kgs)

Modelo G70 (120kgs)

Modelo G100 (180/220kgs)


G 50


G 70


G 100

Programme information

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

Product category rules (PCR): PCR 2018:02 *Crates for food, version 1.22, CPC 3170, 32153, 36490.*
PCR review was conducted by: The Technical Committee of The International EPD® System. Review chair: Maurizio Fieschi. Contact via info@environdec.com.
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: *Marcel Gómez Ferrer.* *Marcel Gómez Consultoría Ambiental.* *www.marcelgomez.com* *Tlf 0034 630 64 35 93* *Email: info@marcelgomez.com* Accredited by: The International EPD® System.
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.

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.

Company information

Owner of the EPD: **GREEN BOX S.L.**
Contact information: Oscar Rivas Calderón
Mail: orivas@greenbox.es
Office: (+34) 96 124 01 18

Description of the organisation:

Green Box, S.L. specialises in packaging and logistics systems for the agri-food sector since 1924. Its headquarter is based in Alcácer (Valencia, Spain). Green Box, S.L. is ISO 9001:2015 certified.

Green Box, S.L. has developed its models for over 30 years, and offers companies an immediate service. GreenBox as a product helps both producers and distributors to save time, money, and effort. Thanks to its attractive, environmentally friendly product designs -which can also be completely personalised- companies are able to increase their sales. Its unique, high-quality packaging system prevents incidents from occurring during transportation.

Green Box, S.L. offers 3 models which differ in height and consequently in loading capacity: G50, G70 and G100.

Name and location of production site:

GREEN BOX S.L.
Carrer dels Fusters, 5
46290 Alcácer (Valencia) SPAIN
Telf. +34 96 124 0118
E-mail: comercial@greenbox.es
Web: https://greenboxsl.com/

Product information

Product name:

GREEN BOX G50 / GREEN BOX G70 / GREEN BOX G100

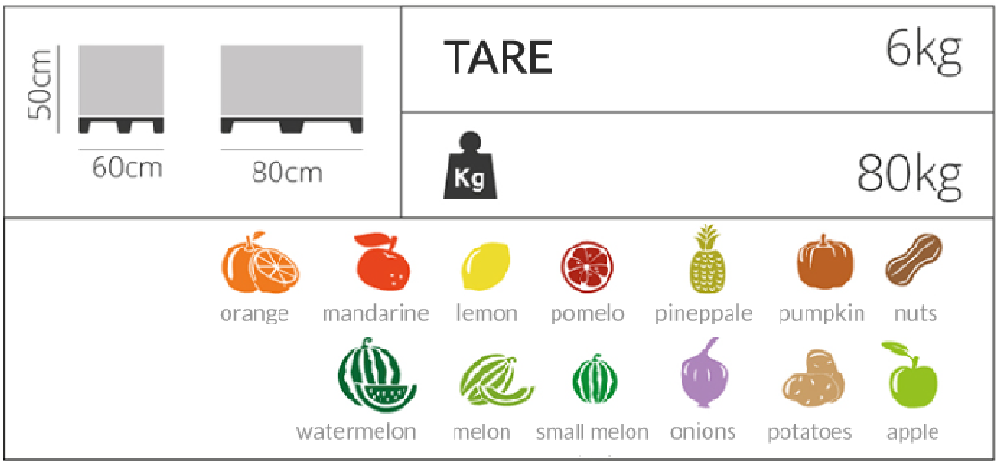
UN CPC code:

31700: Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood (including staves).

Product description:

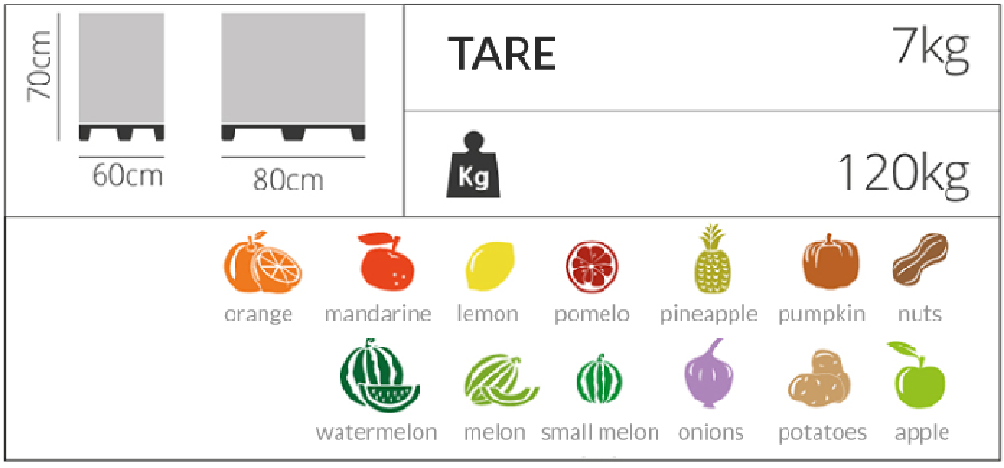
GREEN BOX G50.

The G50, with a load capacity of up to 80kg, is ideal for providing added value to smaller products and it is easier to handle in store. The replenishment times can be reduced and the carefully-polished image can considerably increase product sales. As with the other Green Box products, thanks to the vertical ventilation system and robust structure, the products are preserved better since incidents are prevented during transportation.



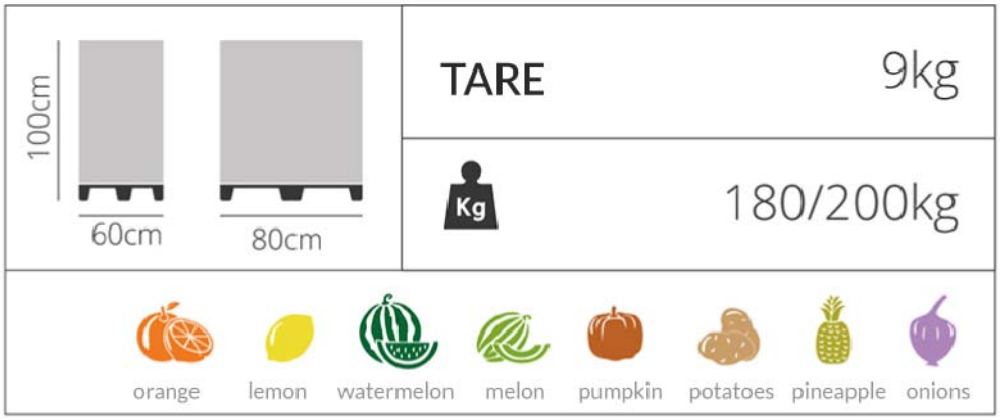
GREEN BOX G70.

The G70, with a load capacity of up to 120kg, is the most versatile product in the range. It is also the most popular amongst our clients as it is easy to handle, and it has a considerable load capacity. The replenishment times can be reduced and thanks to the carefully-polished image the products are more visible at the point of sale which can considerably increase their sales. As with the other Green Box products, thanks to the vertical ventilation system and robust structure, the products are preserved better, and incidents are prevented during transportation.



GREEN BOX G100.

The G100 is the perfect container if you need to store large amounts of agri-food products, or in the case of voluminous goods. Each G100 can hold up to 200kg and it is specially designed for citrus fruits, melons, watermelons, pumpkins, potatoes, onions and pineapples. Measuring 100x80x60cm, it is compact and spacious at the same time. This storage solution makes things easier both in store and in the warehouse as well as during transportation. Weighing only 9kg, it is comfortable to use and given that it uses less space than other models, it is the perfect option for this industry. Its straight and smooth shape optimises space during transportation and given that it is light-weight, fuel consumption is reduced.



COMPOSITION:

The three containers are made of three well differentiated materials:

- Polypropylene base (TRADE PALLET): It is manufactured from recycled polypropylene.
- Wood structure: 4 pine triangular laths of 505mm (G50), 690mm (G70) or 990mm (G100) in the edges, 2 pine slats 760 mm and 2 poplar slats 545 mm.
- Corrugated cardboard that surrounds the structure of the Green Box, of 5-layer (4 of recycled paper and one exterior of printed Kraft paper). Layers 2 and 4 are corrugated.
- Polyester straps to give consistency to the container. Each container has 1 (G50), 2 (G70) or 3 (G100) straps. Additionally, 2 containers are strapped together to give the measure of a Europallet (80x120 cm) with 2 (G50 and G70) or 3 (G100) straps.

The characteristics of each of them are indicated in the following tables:

TRADE PALLET (common for G50 / G70 / G100)	
Height	14,5 cm
Wide	60,0 cm
Length	80,0 cm
Weight	2,9 kg

WOOD STRUCTURE				
Component	**Height (m)**	**Wide (m)**	**Length (m)**	**Weight (kg)**
Pine square lath 505 mm = = 2 triangular lath (only G50)	0,048	0,048	0,505	0,5818
Pine square lath 690 mm = = 2 triangular lath (only G70)	0,048	0,048	0,69	0,7949
Pine square lath 990 mm = = 2 triangular lath (only G100)	0,048	0,048	0,99	1,1405
Pine slats 760 mm (common G50 / G70 / G100)	0,09	0,009	0,76	0,3078
Poplar slats 545 mm (common G50 / G70 / G100)	0,06	0,009	0,545	0,1324

CORRUGATED CARDBOARD SIDE			
Container	**G50**	**G70**	**G100**
Height (cm)	35,0	56,5	79,4
Wide (cm)	275,0	275,0	275,0
Weight (kg)	1,1	1,4	2,2

POLYESTER STRAP			
Container	**G50**	**G70**	**G100**
Weight (kg)	0,045	0,064	0,093

The mass and volume of the containers are indicated in the following table:

MASS AND VOLUME			
Container	**G50**	**G70**	**G100**
TRADE PALLET (kg)	2,9	2,9	2,9
WOOD STRUCTURE (kg) (4 triangular lath + 2 slats 760 mm + 2 slats 545 mm)	2,044	2,47	3,161
CORRUGATED CARDBOARD SIDE (kg)	1,1	1,4	2,2
POLYESTER STRAP (kg)	0,045	0,064	0,093
WEIGHT (kg)	**6,089**	**6,834**	**8,354**
USEFUL VOLUME (L)	**172,8**	**261,6**	**405,6**

MAIN ADVANTAGES:

Our products are designed to be robust and long-lasting, without any incidents during transportation. The vertical ventilation system and its optimum stability reduces product loss. GreenBox reduces handling expenses in platforms and stores and reduces transportation costs thanks to the low packaging tare. Also, it is 100 % recyclable and environmentally friendly. Plus, it offers an eye-catching design boosting sale instore.

- **ORIGIN OF RAW MATERIALS**

All of the materials used to make the Green Box are recycled, recyclable or come from certified sustainable sources.

- Polypropylene pallet 100% recycled.
- Wood from plantations with PEFC certificate.
- Cardboard manufactured using recycled paper.

- **AMOUNT OF RAW MATERIAL CONSUMED**

The amount of raw material used in packaging is considerably reduced in relation to the amount of product packed.

- **SAVINGS IN TRANSPORTATION / LOGISTICS**

Green Box offers the most favourable tare/useful load ratio on the market. By simplifying the packaging and palleting task (without using lower and intermediate pallets) it is possible to save 10% of transportation needs thus reducing the environmental impact.

The vertical ventilation system helps to maintain the products at an ideal temperature, thus reducing energy expenses.

- **SAVE IN REPLENISHMENTS**

The Green Box can also be used as an in-store display container. More product is displayed on a small floor space in the POS, freeing up shelf space. Consequently, the need to constantly refill the product is also reduced. This frees up resources for other activities with higher value. Plus, using GreenBox improves sales and contributes to a higher product rotation as GreenBox is placed in more visible places.

Using GreenBox the fresh produce does not have to be re-packaged, and less effort will be required while at the same time complying with the Recommendations by the Spanish Association of Manufacturers and Distributors (AECOC) regarding height of loaded pallet units.

- **RECYCLING USED MATERIAL**

Another advantage that these products offer is that used material can be sent back for recycling.

- **GREEN BOX DISTRIBUTORS**

We are strategically located close to the main fruit and vegetable production areas in Spain (**Valencia, Almería, Sevilla and Murcia**).

Thanks to our collaborators, our GREEN BOX can be re-collected throughout Europe. Our GREEN BOXES are also available in the following distribution points in Europe: United Kingdom, Finland, France, Belgium, Holland, Italy and Germany.

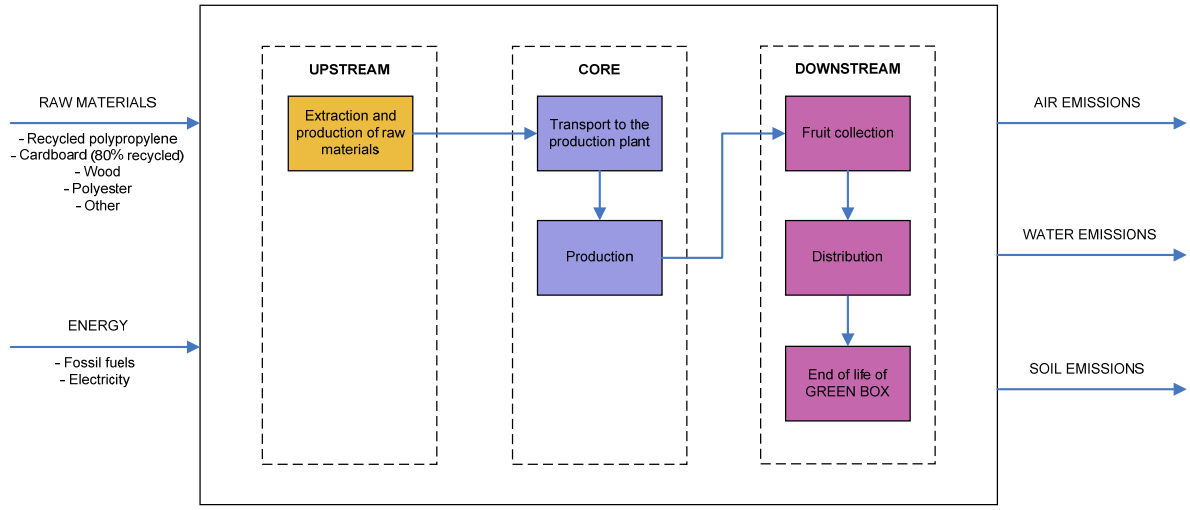
LCA information

Functional unit / declared unit:

According to PCR, 2 functional units are considered for each container:

- 1 container GREEN BOX G50 (Functional Unit = 172,8 L) and 1 container GREEN BOX G50 STANDARD (Functional Unit = 30 L)
- 1 container GREEN BOX G70 (Functional Unit = 261,6 L) and 1 container GREEN BOX G70 STANDARD (Functional Unit = 30 L)
- 1 container GREEN BOX G100 (Functional Unit = 405,6 L) and 1 container GREEN BOX G100 STANDARD (Functional Unit = 30 L)

System diagram:



Description of system boundaries:

In accordance with PCR, a "cradle to grave" life cycle analysis has been carried out. The system boundaries include:

- Extraction and production of raw materials and semi-finished products: Recycled polypropylene Trade Pallet, printed corrugated cardboard, pine and poplar wood and polyester strap.
- Transport of raw materials in lorry to the production plant
- Production: Wood processing and container assembly
- Fruit collection: Delivery assembled container to the filling point, or unassembled to intermediate assembly plant.
- Distribution full container to the customers in all Europe in reefer lorry.

- End of life: Management of the different components of the container (polypropylene, cardboard, wood and polyester). Part of the Trade Pallet and wood are sent back to GREEN BOX or reused locally.

The different indicators have been calculated by functional unit and by life cycle stage (upstream, core and downstream).

Main hypotheses and exclusions:

A minimum of 99% of the total weight of the declared product considering packaging is included.

In the case that there is not enough information, the process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded per module cannot be bigger than the 5% of the whole mass and energy used, as well of the emissions to environment occurred. Flows related to human activities such as employee transport are excluded.

In the stage of extraction and production of raw materials, the packaging production has been taken into account. In the case of recycled materials, “polluter pays principle” has been applied: Only the environmental load of the recycling process is considered, not the previous processes. Thus, in the case of the trade pallet (recycled polypropylene), the electrical consumption of its manufacture has been considered, data provided by the supplier.

In the transport to the production plant, the real distances from the suppliers to GREEN BOX have been considered. Real data of return of Trade Pallets and wood to GREEN BOX in the end-of-life stage has been considered. Transport in lorry 16-32 metric ton, EURO6.

In the production stage, the consumption of raw material, electricity and water has been considered, as well as the generation and external management of waste (transport in lorry 16-32 metric ton, EURO6, real distances). The use of auxiliary materials in the maintenance of machinery has been excluded. Also, the discharge of urban wastewater. For electricity, Spain residual electricity mix has been used.

In the fruit collection stage, the transport distances to an intermediate assembly plant have been considered when the container is delivered unassembled. Transport in lorry 16-32 metric ton, EURO6. An average transport distance of 50 km has been assumed for the container once assembled to the filling point (transport in reefer lorry).

For distribution, the weighted average distance of the container has been calculated, resulting in 1878 km. Transport in lorry with reefer.

In the end-of-life stage, the data on recycling and recovery of packaging waste EU-27 in 2018 has been taken as a reference (66,3% recycling, 14,6% energy recovery and 19,1% dump).

In waste management, “polluter pays principle” has been applied: If the waste is recovered or recycled, only the transport is considered. If it is eliminated, transport to treatment and the treatment applied to the waste are considered both. Transport in lorry 16-32 metric ton, EURO6, distance 25 km.

Data quality:

Specific data of the production plant:
- Consumption of raw materials and packaging
- Consumption of electricity and water
- Waste production

Generic data (ECOINVENT 3.6) for:
- Production of raw materials and packaging
- Production of electricity and water
- Transport
- Waste management

Long-term emissions and infrastructure processes have not been excluded in the datasets de ECOINVENT.

Allocation:

Direct allocation for the consumption of raw materials.
Physical allocation (mass) for electricity consumption and waste.
Wherever possible allocation has been avoided.

Time representativeness:

Consumption and production data for 2019.

Database and LCA software used: ECOINVENT 3.6 (2019) and LCAmanager 1.3.

Geographical scope: Europe

Content declaration

Materials / chemical substances	G50		G70		G100		Environmental / hazardous properties
	kg	%	kg	%	kg	%	
Polypropylene	2.9	47,7	2,9	42,4	2.9	34,7	100% recycled & recyclable
Pine wood	1,78	29,3	2,21	32,3	2,90	34,7	PEFC certificate
Corrugated cardboard	1,1	18,1	1,4	20,5	2,2	26,3	4 layers of recycled paper and one exterior of printed Kraft paper FSC Certificate
Poplar wood	0,26	4,3	0,26	3,8	0,26	3,1	PEFC certificate
Polyester	0,045	0,7	0,064	0,9	0,093	1,1	

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

Environmental performance

1 container GREEN BOX G50 (F.U.= 172,8 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2,09E+00	4,58E-01	2,87E+00	**5,42E+00**
	Biogenic	kg CO_2 eq.	6,25E-02	2,19E-04	2,66E-02	**8,93E-02**
	Land use and land transformation	kg CO_2 eq.	5,90E-02	5,44E-04	7,22E-04	**6,02E-02**
	TOTAL	kg CO_2 eq.	2,21E+00	4,59E-01	2,90E+00	**5,57E+00**
Acidification potential (AP)		kg SO_2 eq.	1,07E-02	1,34E-03	9,43E-03	**2,15E-02**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	5,32E-03	2,94E-04	5,51E-03	**1,11E-02**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	9,85E-03	1,19E-03	1,16E-02	**2,27E-02**
Abiotic depletion potential - Elements		kg Sb eq.	3,22E-05	1,17E-05	4,62E-05	**9,01E-05**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	3,31E+01	6,91E+00	2,85E+01	**6,85E+01**
Water scarcity potential		m^3 eq.	2,32E+00	5,75E-02	1,72E-01	**2,55E+00**
Land use		m^2a	9,60E+00	3,13E-02	1,47E-01	**9,77E+00**
Freshwater aquatic eco-toxicity		kg 1,4-dichlorobenzene eq.	1,63E+00	5,02E-02	5,62E+00	**7,31E+00**
Human toxicity		kg 1,4-dichlorobenzene eq.	1,50E+00	1,73E-01	2,83E+00	**4,50E+00**
CED (cumulative energy demand)		MJ	1,02E+02	7,47E+00	3,02E+01	**1,39E+02**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2,38E+01	3,29E-01	4,08E-01	**2,46E+01**
	Used as raw materials	MJ, net calorific value	4,82E+01	0,00E+00	0,00E+00	**4,82E+01**
	TOTAL	MJ, net calorific value	7,20E+01	3,29E-01	4,08E-01	**7,27E+01**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	2,87E+01	7,14E+00	2,98E+01	**6,57E+01**
	Used as raw materials	MJ, net calorific value	1,10E+00	0,00E+00	0,00E+00	**1,10E+00**
	TOTAL	MJ, net calorific value	2,98E+01	7,14E+00	2,98E+01	**6,68E+01**
Secondary material		kg	3,89E+00	0,00E+00	0,00E+00	**3,89E+00**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	2,93E-02	7,25E-04	2,17E-03	**3,22E-02**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1,29E-03	1,70E-05	7,40E-05	**1,38E-03**
Non-hazardous waste disposed	kg	2,88E-01	3,19E-01	2,84E+00	**3,45E+00**
Radioactive waste disposed	kg	1,28E-04	5,11E-05	1,92E-04	**3,71E-04**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	3,82E-01	**3,82E-01**
Material for recycling	kg	0,00E+00	5,80E-01	3,81E+00	**4,39E+00**
Materials for energy recovery	kg	0,00E+00	0,00E+00	8,44E-01	**8,44E-01**
Littering	kg	0,00E+00	6,56E-03	1,11E+00	**1,12E+00**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

1 container GREEN BOX G50 STANDARD (F.U.= 30 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	3,62E-01	7,96E-02	4,98E-01	**9,40E-01**
	Biogenic	kg CO_2 eq.	1,08E-02	3,80E-05	4,63E-03	**1,55E-02**
	Land use and land transformation	kg CO_2 eq.	1,02E-02	9,44E-05	1,25E-04	**1,05E-02**
	TOTAL	kg CO_2 eq.	3,83E-01	7,97E-02	5,03E-01	**9,66E-01**
Acidification potential (AP)		kg SO_2 eq.	1,86E-03	2,32E-04	1,64E-03	**3,73E-03**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	9,23E-04	5,11E-05	9,56E-04	**1,93E-03**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	1,71E-03	2,06E-04	2,02E-03	**3,93E-03**
Abiotic depletion potential - Elements		kg Sb eq.	5,58E-06	2,04E-06	8,03E-06	**1,56E-05**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	5,74E+00	1,20E+00	4,95E+00	**1,19E+01**
Water scarcity potential		m^3 eq.	4,03E-01	9,99E-03	2,98E-02	**4,43E-01**
Land use		m^2a	1,67E+00	5,44E-03	2,54E-02	**1,70E+00**
Freshwater aquatic eco-toxicity		kg 1,4-dichloroben zene eq.	2,84E-01	8,71E-03	9,76E-01	**1,27E+00**
Human toxicity		kg 1,4-dichloroben zene eq.	2,60E-01	3,00E-02	4,91E-01	**7,81E-01**
CED (cumulative energy demand)		MJ	1,77E+01	1,30E+00	5,25E+00	**2,42E+01**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	4,14E+00	5,72E-02	7,08E-02	**4,27E+00**
	Used as raw materials	MJ, net calorific value	8,36E+00	0,00E+00	0,00E+00	**8,36E+00**
	TOTAL	MJ, net calorific value	1,25E+01	5,72E-02	7,08E-02	**1,26E+01**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	4,98E+00	1,24E+00	5,18E+00	**1,14E+01**
	Used as raw materials	MJ, net calorific value	1,91E-01	0,00E+00	0,00E+00	**1,91E-01**
	TOTAL	MJ, net calorific value	5,17E+00	1,24E+00	5,18E+00	**1,16E+01**
Secondary material		kg	6,75E-01	0,00E+00	0,00E+00	**6,75E-01**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	5,08E-03	1,26E-04	3,76E-04	**5,58E-03**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	2,24E-04	2,95E-06	1,28E-05	**2,40E-04**
Non-hazardous waste disposed	kg	4,99E-02	5,54E-02	4,93E-01	**5,99E-01**
Radioactive waste disposed	kg	2,22E-05	8,87E-06	3,33E-05	**6,44E-05**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	6,62E-02	**6,62E-02**
Material for recycling	kg	0,00E+00	1,01E-01	6,61E-01	**7,61E-01**
Materials for energy recovery	kg	0,00E+00	0,00E+00	1,47E-01	**1,47E-01**
Littering	kg	0,00E+00	1,14E-03	1,93E-01	**1,94E-01**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

1 container GREEN BOX G70 (F.U.= 261,6 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2,56E+00	5,45E-01	3,10E+00	**6,21E+00**
	Biogenic	kg CO_2 eq.	7,92E-02	2,55E-04	3,20E-02	**1,11E-01**
	Land use and land transformation	kg CO_2 eq.	7,33E-02	6,22E-04	7,99E-04	**7,47E-02**
	TOTAL	kg CO_2 eq.	2,72E+00	5,46E-01	3,14E+00	**6,40E+00**
Acidification potential (AP)		kg SO_2 eq.	1,29E-02	1,58E-03	1,06E-02	**2,50E-02**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	6,59E-03	3,47E-04	6,00E-03	**1,29E-02**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	1,18E-02	1,41E-03	1,30E-02	**2,63E-02**
Abiotic depletion potential - Elements		kg Sb eq.	4,00E-05	1,40E-05	5,19E-05	**1,06E-04**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	4,08E+01	8,22E+00	3,20E+01	**8,10E+01**
Water scarcity potential		m^3 eq.	2,91E+00	6,65E-02	1,94E-01	**3,17E+00**
Land use		m^2a	1,02E+01	3,72E-02	1,64E-01	**1,04E+01**
Freshwater aquatic eco-toxicity		kg 1,4-dichlorobenzene eq.	2,05E+00	5,90E-02	5,66E+00	**7,77E+00**
Human toxicity		kg 1,4-dichlorobenzene eq.	1,90E+00	2,05E-01	2,93E+00	**5,03E+00**
CED (cumulative energy demand)		MJ	1,14E+02	8,88E+00	3,39E+01	**1,57E+02**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2,64E+01	3,76E-01	4,50E-01	**2,72E+01**
	Used as raw materials	MJ, net calorific value	5,05E+01	0,00E+00	0,00E+00	**5,05E+01**
	TOTAL	MJ, net calorific value	7,69E+01	3,76E-01	4,50E-01	**7,77E+01**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	3,53E+01	8,50E+00	3,34E+01	**7,72E+01**
	Used as raw materials	MJ, net calorific value	1,57E+00	0,00E+00	0,00E+00	**1,57E+00**
	TOTAL	MJ, net calorific value	3,69E+01	8,50E+00	3,34E+01	**7,88E+01**
Secondary material		kg	4,29E+00	0,00E+00	0,00E+00	**4,29E+00**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	3,66E-02	8,39E-04	2,45E-03	**3,99E-02**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1,64E-03	2,03E-05	8,29E-05	**1,74E-03**
Non-hazardous waste disposed	kg	3,40E-01	3,81E-01	3,19E+00	**3,91E+00**
Radioactive waste disposed	kg	1,44E-04	6,05E-05	2,15E-04	**4,20E-04**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	5,52E-01	**5,52E-01**
Material for recycling	kg	0,00E+00	6,51E-01	4,13E+00	**4,78E+00**
Materials for energy recovery	kg	0,00E+00	0,00E+00	9,53E-01	**9,53E-01**
Littering	kg	0,00E+00	7,36E-03	1,25E+00	**1,26E+00**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

1 container GREEN BOX G70 STANDARD (F.U.= 30 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2,94E-01	6,25E-02	3,56E-01	**7,13E-01**
	Biogenic	kg CO_2 eq.	9,08E-03	2,93E-05	3,67E-03	**1,28E-02**
	Land use and land transformation	kg CO_2 eq.	8,40E-03	7,13E-05	9,17E-05	**8,57E-03**
	TOTAL	kg CO_2 eq.	3,12E-01	6,26E-02	3,60E-01	**7,34E-01**
Acidification potential (AP)		kg SO_2 eq.	1,48E-03	1,81E-04	1,21E-03	**2,87E-03**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	7,56E-04	3,98E-05	6,88E-04	**1,48E-03**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	1,36E-03	1,61E-04	1,49E-03	**3,01E-03**
Abiotic depletion potential - Elements		kg Sb eq.	4,59E-06	1,61E-06	5,95E-06	**1,21E-05**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	4,68E+00	9,42E-01	3,66E+00	**9,29E+00**
Water scarcity potential		m^3 eq.	3,33E-01	7,63E-03	2,23E-02	**3,63E-01**
Land use		m^2a	1,17E+00	4,26E-03	1,88E-02	**1,19E+00**
Freshwater aquatic eco-toxicity		kg 1,4-dichlorobenzene eq.	2,36E-01	6,77E-03	6,49E-01	**8,91E-01**
Human toxicity		kg 1,4-dichlorobenzene eq.	2,18E-01	2,35E-02	3,36E-01	**5,77E-01**
CED (cumulative energy demand)		MJ	1,30E+01	1,02E+00	3,89E+00	**1,79E+01**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	3,03E+00	4,32E-02	5,16E-02	**3,12E+00**
	Used as raw materials	MJ, net calorific value	5,79E+00	0,00E+00	0,00E+00	**5,79E+00**
	TOTAL	MJ, net calorific value	8,82E+00	4,32E-02	5,16E-02	**8,91E+00**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	4,05E+00	9,75E-01	3,84E+00	**8,86E+00**
	Used as raw materials	MJ, net calorific value	1,80E-01	0,00E+00	0,00E+00	**1,80E-01**
	TOTAL	MJ, net calorific value	4,23E+00	9,75E-01	3,84E+00	**9,04E+00**
Secondary material		kg	4,92E-01	0,00E+00	0,00E+00	**4,92E-01**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	4,20E-03	9,62E-05	2,81E-04	**4,58E-03**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1,88E-04	2,33E-06	9,51E-06	**2,00E-04**
Non-hazardous waste disposed	kg	3,90E-02	4,37E-02	3,66E-01	**4,49E-01**
Radioactive waste disposed	kg	1,65E-05	6,94E-06	2,47E-05	**4,81E-05**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	6,33E-02	**6,33E-02**
Material for recycling	kg	0,00E+00	7,47E-02	4,74E-01	**5,48E-01**
Materials for energy recovery	kg	0,00E+00	0,00E+00	1,09E-01	**1,09E-01**
Littering	kg	0,00E+00	8,44E-04	1,43E-01	**1,44E-01**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

1 container GREEN BOX G100 (F.U.= 405,6 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	3,78E+00	6,53E-01	3,58E+00	**8,02E+00**
	Biogenic	kg CO_2 eq.	1,24E-01	3,08E-04	4,11E-02	**1,65E-01**
	Land use and land transformation	kg CO_2 eq.	1,13E-01	7,55E-04	9,59E-04	**1,15E-01**
	TOTAL	kg CO_2 eq.	4,02E+00	6,54E-01	3,63E+00	**8,30E+00**
Acidification potential (AP)		kg SO_2 eq.	1,86E-02	1,89E-03	1,29E-02	**3,34E-02**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	9,92E-03	4,17E-04	6,92E-03	**1,73E-02**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	1,75E-02	1,69E-03	1,59E-02	**3,51E-02**
Abiotic depletion potential - Elements		kg Sb eq.	6,12E-05	1,68E-05	6,35E-05	**1,41E-04**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	6,03E+01	9,84E+00	3,91E+01	**1,09E+02**
Water scarcity potential		m^3 eq.	4,48E+00	8,05E-02	2,43E-01	**4,80E+00**
Land use		m^2a	1,49E+01	4,45E-02	2,01E-01	**1,51E+01**
Freshwater aquatic eco-toxicity		kg 1,4-dichlorobenzene eq.	3,16E+00	7,09E-02	5,73E+00	**8,96E+00**
Human toxicity		kg 1,4-dichlorobenzene eq.	2,82E+00	2,46E-01	3,13E+00	**6,20E+00**
CED (cumulative energy demand)		MJ	1,67E+02	1,06E+01	4,14E+01	**2,19E+02**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	3,83E+01	4,57E-01	5,37E-01	**3,93E+01**
	Used as raw materials	MJ, net calorific value	7,36E+01	0,00E+00	0,00E+00	**7,36E+01**
	TOTAL	MJ, net calorific value	1,12E+02	4,57E-01	5,37E-01	**1,13E+02**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	5,23E+01	1,02E+01	4,09E+01	**1,03E+02**
	Used as raw materials	MJ, net calorific value	2,27E+00	0,00E+00	0,00E+00	**2,27E+00**
	TOTAL	MJ, net calorific value	5,46E+01	1,02E+01	4,09E+01	**1,06E+02**
Secondary material		kg	4,78E+00	0,00E+00	0,00E+00	**4,78E+00**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	5,65E-02	1,01E-03	3,06E-03	**6,06E-02**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	2,58E-03	2,43E-05	1,01E-04	**2,70E-03**
Non-hazardous waste disposed	kg	5,08E-01	4,56E-01	3,92E+00	**4,89E+00**
Radioactive waste disposed	kg	1,91E-04	7,26E-05	2,63E-04	**5,27E-04**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	4,42E-01	**4,42E-01**
Material for recycling	kg	0,00E+00	7,95E-01	5,27E+00	**6,07E+00**
Materials for energy recovery	kg	0,00E+00	0,00E+00	1,18E+00	**1,18E+00**
Littering	kg	0,00E+00	8,99E-03	1,55E+00	**1,56E+00**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

1 container GREEN BOX G100 STANDARD (F.U.= 30 L)

Potential environmental impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	2,80E-01	4,83E-02	2,65E-01	**5,93E-01**
	Biogenic	kg CO_2 eq.	9,17E-03	2,28E-05	3,04E-03	**1,22E-02**
	Land use and land transformation	kg CO_2 eq.	8,36E-03	5,58E-05	7,09E-05	**8,49E-03**
	TOTAL	kg CO_2 eq.	2,97E-01	4,83E-02	2,68E-01	**6,14E-01**
Acidification potential (AP)		kg SO_2 eq.	1,38E-03	1,40E-04	9,54E-04	**2,47E-03**
Eutrophication potential (EP)		kg PO_4^{3-} eq.	7,34E-04	3,08E-05	5,12E-04	**1,28E-03**
Photochemical oxidant formation potential (POFP)		Kg NMVOC eq.	1,30E-03	1,25E-04	1,18E-03	**2,60E-03**
Abiotic depletion potential - Elements		kg Sb eq.	4,53E-06	1,24E-06	4,70E-06	**1,05E-05**
Abiotic depletion potential - Fossil resources		MJ, net calorific value	4,46E+00	7,28E-01	2,89E+00	**8,08E+00**
Water scarcity potential		m^3 eq.	3,31E-01	5,95E-03	1,80E-02	**3,55E-01**
Land use		m^2a	1,10E+00	3,29E-03	1,48E-02	**1,12E+00**
Freshwater aquatic eco-toxicity		kg 1,4-dichlorobenzene eq.	2,34E-01	5,25E-03	4,24E-01	**6,63E-01**
Human toxicity		kg 1,4-dichlorobenzene eq.	2,09E-01	1,82E-02	2,32E-01	**4,59E-01**
CED (cumulative energy demand)		MJ	1,23E+01	7,86E-01	3,07E+00	**1,62E+01**

Use of resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2,83E+00	3,38E-02	3,97E-02	**2,91E+00**
	Used as raw materials	MJ, net calorific value	5,44E+00	0,00E+00	0,00E+00	**5,44E+00**
	TOTAL	MJ, net calorific value	8,28E+00	3,38E-02	3,97E-02	**8,35E+00**
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	3,87E+00	7,52E-01	3,03E+00	**7,65E+00**
	Used as raw materials	MJ, net calorific value	1,68E-01	0,00E+00	0,00E+00	**1,68E-01**
	TOTAL	MJ, net calorific value	4,04E+00	7,52E-01	3,03E+00	**7,82E+00**
Secondary material		kg	3,53E-01	0,00E+00	0,00E+00	**3,53E-01**
Renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Non-renewable secondary fuels		MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**
Net use of fresh water		m^3	4,18E-03	7,50E-05	2,27E-04	**4,48E-03**

Waste production and output flows

Waste production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1,90E-04	1,79E-06	7,49E-06	**2,00E-04**
Non-hazardous waste disposed	kg	3,75E-02	3,37E-02	2,90E-01	**3,62E-01**
Radioactive waste disposed	kg	1,42E-05	5,37E-06	1,94E-05	**3,90E-05**

Output flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0,00E+00	0,00E+00	3,27E-02	**3,27E-02**
Material for recycling	kg	0,00E+00	5,88E-02	3,90E-01	**4,49E-01**
Materials for energy recovery	kg	0,00E+00	0,00E+00	8,73E-02	**8,73E-02**
Littering	kg	0,00E+00	6,65E-04	1,15E-01	**1,15E-01**
Exported energy, electricity	MJ	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-

Other environmental indicators

Other indicators	G50	G70	G100
Energy content (MJ)	185	198	226
Content of recycled material (%)	62 %	61 %	55 %

Photovoltaic installation (power 120 kW) for self-consumption of the electrical energy produced. In operation since June 2021. Percentage of GREEN BOX consumption covered in June to December 2021: 47%.

Version history of EPD

Version	Date	Changes
1	2021-09-16	Initial version. Only includes container G70.
2	2022-01-31	Updated to include containers G50 and G100.

Differences versus previous versions

In this version, the scope of the EPD has been expanded to include two more containers: G50 and G100.

Impact indicator POCP (Formation potential of tropospheric ozone) has been changed to POFP (Photochemical oxidant formation potencial).

System diagram has been updated to include inputs and outputs.

Section “Description of system boundaries”: Inclusion of a brief description of the life cycle stages considered.

The Spanish Electricity Mix for 2019 has been updated to the Spanish Residual Electricity Mix for 2019.

References

ISO 14020:2002. Environmental labels and declarations. General principles.

ISO 14025:2010. Environmental labels and declarations. Type III environmental declarations. Principles and procedures

ISO 14040:2006. Environmental management. Life cycle assessment. Principles and framework.

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General Programme Instructions of the International EPD® System. Version 3.01.

PCR 2018:02 Crates for food, version 1.22, CPC 3170, 32153, 36490. The International EPD® System.

Life Cycle Analysis of the packaging GREEN BOX G70. Version 1, 2021-07-06.

Life Cycle Analysis of the packaging GREEN BOX G100. Version 1, 2022-01-27.

Life Cycle Analysis of the packaging GREEN BOX G50. Version 1, 2022-01-27.

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