



Environmental Product Declaration

In accordance with ISO 14025:2006 for:

CARDBOARD BOX CARTONPALLET CMP ROSERIO

from

REDBOX Srl

VIA LAURENTINA, 191, 00040 POMEZIA (RM) - ITALY



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-12261
Publication date:	2024-07-12
Valid until:	2029-05-23

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

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)

Packaging - 2019:13 v. 1.1.2

Product category classification: Multiple CPC

PCR review was conducted by: Maurizio Fieschi.

The review panel may be contacted via info@.environdec.com.

Life Cycle Assessment (LCA)

LCA accountability: *Esalex srl*

Third-party verification

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

EPD verification by accredited certification body

Third-party verification: Bureau Veritas Italia S.p.A. is an approved certification body accountable for the third-party verification.

The certification body is accredited by: Accredia, Accreditation certificate n. 0009VV.

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 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 ISO 14025.

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

Name and contact information of LCA practitioners:

Esalex Srl

www.esalex.eu

info@esalex.eu

Company information

Owner of the EPD: REDBOX srl

Contact: Valentina Rossi, valentina.rossi@redbox.it, +39 06 9145779

Description of the organisation:

Redbox srl was born in the 1993 as a box factory, but from 1997 the activity is expanded to paper industry. Now Redbox is leader for the creation of innovative solution of packaging, developing POP materials and the management of co-packaging services.

The company boasts a production of 500.000 boxes per day and 1.000.000 m² of transformed cardboard per month, dealing with the design and creation of packaging that adapts to customer needs.

Redbox has achieved the following certification:

- ISO 14001:2015,
- ISO 45001:2018,
- ISO 9001:2015,
- Ecovadis 2022 silver,
- FSC.

Name and location of production site:

REDBOX srl

Via Laurentina, 191,
00040 Pomezia (RM) - ITALY

Product information

Product name: Cartonpallet CMP Roserio

Product description and identification:

The product is a corrugated cardboard box (2 waves), printed, glued and stapled, measuring 1180x790x772 mm.

UN CPC code: 32153 "Cartons, boxes, cases, record sleeves and other packing containers (except bags) of paper, paperboard, cellulose wadding or webs of cellulose fibres; box files, letter trays, and similar articles, of paper or paperboard of a kind used in offices, shops or the like"

The product does not contain PBT/vPvB substances $\geq 0.1\%$ evaluated in accordance with Annex XIII of REACH and does not contain any substances listed on the REACH candidate list.

Geographical scope: Italy

LCA information

Functional unit: 1 cardboard box, dimensions of 1180x790x772 mm

Reference service life: 1 time use

Time representativeness: primary data refer to 2022 year. The generic data has been updated in 2023 (Ecoinvent 3.9.1).

Geographical representativeness: primary data are obtained from REDBOX srl management system. The secondary data are obtained by database Ecoinvent 3.9.1 (RER or GLO records).

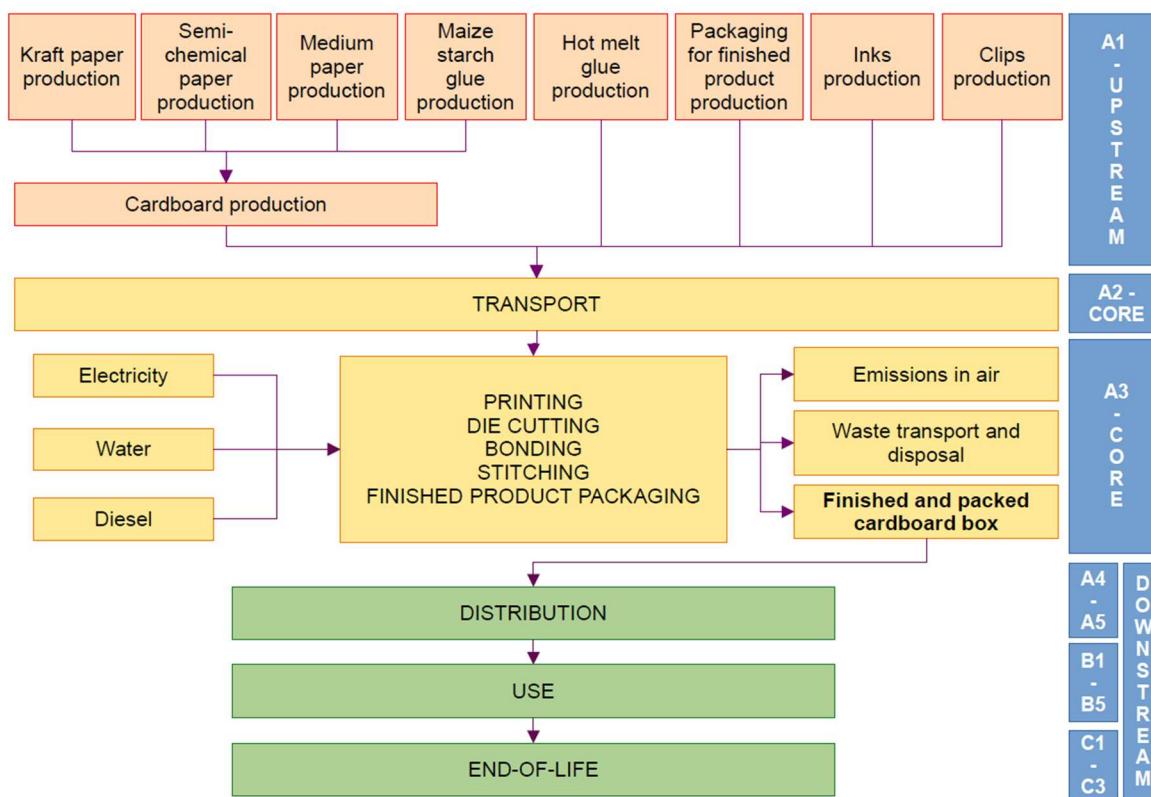
Technological representativeness: primary data are obtained from processes of REDBOX srl under study. The secondary data are obtained from database for similar technology of REDBOX processes.

Database(s) and LCA software used: for the elaboration of data SimaPro v. 9.5.0.2; the database used is Ecoinvent 3.9.1.

Data quality

The data used for the study are assessed following the method defined in the Recommendation of European Commission of 16.12.2021. The results obtained are:

- Upstream processes (A1 phase): Good quality
- Core processes (A2 phase): Very good quality
- Core processes (A3 phase): Good quality
- Downstream processes (from A4 to C3 phases): Good quality.

System diagram:

Description of system boundaries: cradle-to-grave.

The upstream process (A1 phase) includes the raw materials and packaging production.

The core processes include the transport of raw materials from producer to Redbox (A2 phase), the use of energy resources, the management of waste and the emissions in atmosphere (A3 phase). The electricity consumed in core process is modelled from Italian residual mix.

For modelling the downstream processes, scenarios are designed.

Excluded lifecycle stages: all lifecycle stages are included in the study.

Additional information:

- The allocation is applied in the LCA study: when necessary, mass allocation is used.
- Cut-off: at least 99% of the energy and materials used by module has been introduced, as well as 99% of the total use of energy and materials
- The polluter payer principle has been followed
- The long-term emissions have not been included.
- The next processes have not been included since its impact is not significant:
 - Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process.
 - Personnel-related impacts, such as transportation to and from work.

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

Content declaration

Product

Product component	%
Cardboard/paper	99,49
Inks	0,21
Glue	0,27
Clips	0,03
TOTAL	100

Packaging

The packaging included in the study for the final product is:

- Packaging film
- Plastic strap
- Pallet.

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product:

The cardboard contains recycled component (in the upstream phase of paper mills).

Results of the environmental performance indicators

Impact category indicators

The following results are valid for 1 Cartonpallet CMP Roserio:

Parameter		Unit	Upstream	Core	Downstream	Total
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	3,22E+00	6,56E-01	1,63E+00	5,51E+00
	Biogenic	kg CO ₂ eq.	2,95E-01	9,08E-04	5,91E-01	8,86E-01
	Land use and land transformation	kg CO ₂ eq.	7,57E-02	2,39E-05	3,57E-05	7,58E-02
	TOTAL	kg CO ₂ eq.	3,59E+00	6,57E-01	2,22E+00	6,47E+00
Ozone layer depletion (ODP)		kg CFC 11 eq.	1,19E-07	1,47E-08	3,06E-08	1,64E-07
Acidification potential (AP)		mol H ⁺ eq.	1,57E-02	2,04E-03	6,14E-03	2,39E-02
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	2,65E-04	7,05E-06	1,24E-06	2,73E-04
	Aquatic marine	kg N eq.	9,61E-03	6,01E-04	3,31E-03	1,35E-02
	Aquatic terrestrial	mol N eq.	4,88E-02	6,56E-03	2,84E-02	8,38E-02
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	1,33E-02	1,34E-02	2,47E-03	1,01E-02
Abiotic depletion potential (ADP)	Metals and minerals	kg Sb eq.	4,60E-06	1,36E-08	5,32E-08	4,66E-06
	Fossil resources	MJ, net calorific value	4,83E+01	9,43E+00	1,97E+01	7,74E+01
Water deprivation potential (WDP)		m ³ world eq. deprived	2,31E+00	1,10E-01	3,14E-02	2,45E+00

For Abiotic depletion minerals, Abiotic depletion fuels, Water Deprivation Potential: 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

The following results are valid for 1 Cartonpallet CMP Roserio:

Parameter		Unit	Upstream	Core	Downstream	Total
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	4,98E+01	2,03E-01	6,78E-02	5,01E+01
	Used as raw materials	MJ, net calorific value	6,35E+01	0,00E+00	0,00E+00	6,35E+01
	TOTAL	MJ, net calorific value	1,13E+02	2,03E-01	6,78E-02	1,14E+02
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	4,84E+01	9,43E+00	1,97E+01	7,76E+01
	Used as raw materials	MJ, net calorific value	2,95E+00	0,00E+00	0,00E+00	2,95E+00
	TOTAL	MJ, net calorific value	4,55E+01	9,43E+00	1,97E+01	7,47E+01
Secondary material (optional)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renewable secondary fuels (optional)	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-renewable secondary fuels (optional)	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (optional)	m³	7,95E-01	1,36E-01	4,39E-03	9,35E-01	

Waste indicators

The following results are valid for 1 Cartonpallet CMP Roserio:

Parameter	Unit	Upstream	Core	Downstream	Total
Hazardous waste disposed	kg	1,51E-04	8,56E-03	1,31E-04	8,84E-03
Non-hazardous waste disposed	kg	4,03E-01	1,10E+00	4,20E-01	1,92E+00
Radioactive waste disposed	kg	9,33E-05	9,78E-06	1,80E-06	1,05E-04

Output flow indicators

The following results are valid for 1 Cartonpallet CMP Roserio:

Parameter	Unit	Upstream	Core	Downstream	Total
Components for reuse	kg	0,00E+00	0,00E+00	1,88E-01	1,88E-01
Material for recycling	kg	0,00E+00	9,83E-01	4,06E+00	5,04E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	2,97E-01	2,97E-01
Exported energy, electricity	MJ per energy carrier	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ per energy carrier	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental information

No further information is provided.

This document is the first emission of EPD.

References

- General Programme Instructions of the International EPD® System. Version 4.0.
- PCR 2019:13 v.1.1.2 Packaging
- ISO 14040:2006 Environmental management - Life Cycle Assessment - Principles and framework
- ISO 14044:2006 Environmental management - Life Cycle Assessment-Requirements and guidelines
- ISO 14025:2010 Environmental labels and declarations-Type III Environmental Declarations- Principles and procedures
- Project report: Cartonpallet CMP Roserio, rev. 2 of 10/04/2024
- Ecoinvent 3.9.1



www.environdec.com