MAILER™

from

ipg®

EPD®

Environmental Product Declaration

In accordance with ISO 14025

PROGRAMME:	The International EPD® System, www.environdec.com
PROGRAMME OPERATOR:	EPD International AB
EPD REGISTRATION NUMBER:	S-P-04669
PUBLICATION DATE:	2022-04-25
REVISION DATE:	2022-06-30
VALID UNTIL:	2027-04-25

EPD Programme Information

EPD®

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): Packaging PCR 2019:13 Version 1.1 Valid until: 2023-11-08

PCR review was conducted by: Anna Bortoluzzi, Università degli Studi di Milano - Department of Chemistry, anna.bortoluzzi@unimi.it

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

☐ EPD process certification ☒ EPD verification

Third party verifier: Arka Pandit, Maggie Wildnauer, Brad McAllister
WAP Sustainability Consulting

In case of recognised individual verifiers:
Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

☒ Yes ☐ No

Owner of the EPD: IPG
Contact: Sustainability@itape.com

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.

EPD®

MAILER™

North America

IPG Company Information

IPG is a recognized leader in the development, manufacture, and sale of a variety of paper and film-based pressure-sensitive and water-activated tapes, stretch and shrink films, protective packaging, woven and non-woven products and packaging machinery for industrial and retail use. Headquartered in Montreal, Quebec and Sarasota, Florida, IPG employs approximately 4,100 employees with operations in 33 locations, including 22 manufacturing facilities in North America, five in Asia and one in Europe.

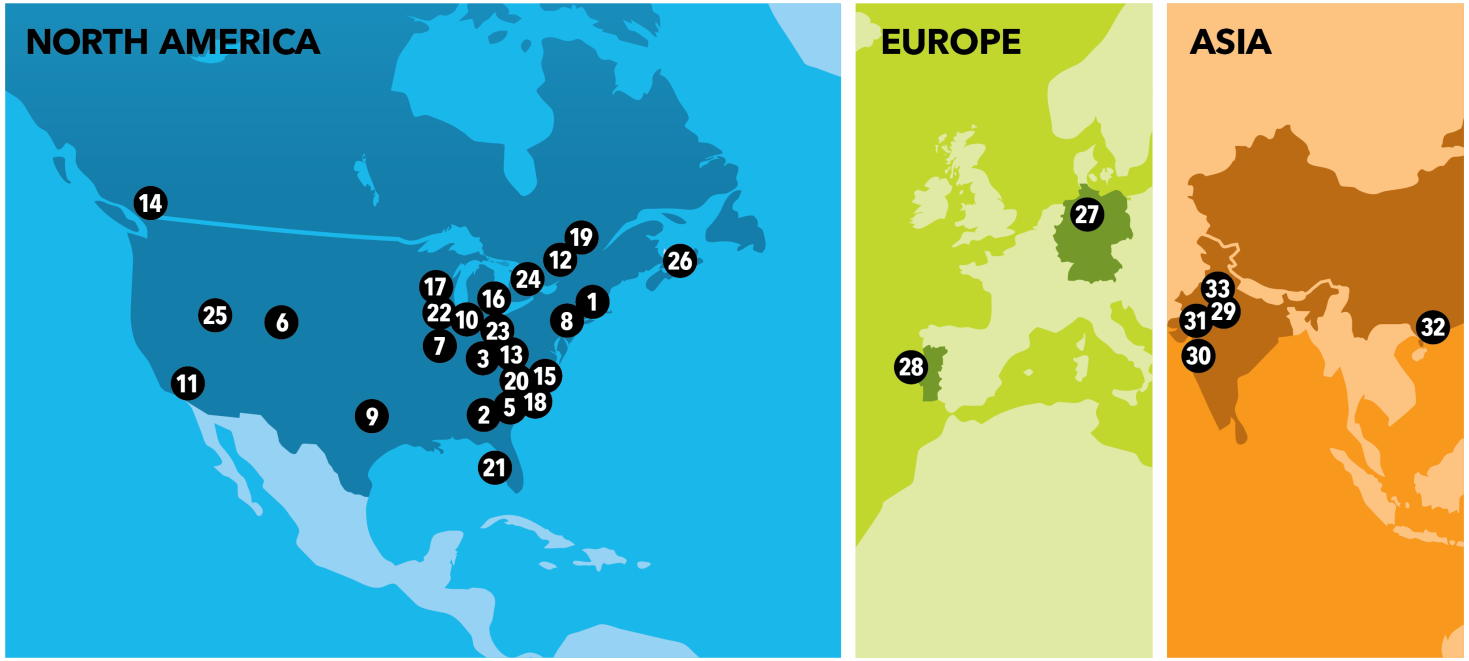
Name and location of production site:

Curby Mailer product line is manufactured at IPG facility located at 1091 Carolina Pines Dr., Blythewood, South Carolina, 29016, United States.

IPG Facility, Blythewood, South Carolina

IPG Executive Headquarters, Sarasota, Florida

Our Locations



NORTH AMERICA

1. Ansonia, CT ■
2. Atlanta, GA ●
3. Bardstown, KY (2) ●
5. Blythewood, SC ●
6. Brighton, CO ●
7. Carbondale, IL ●
8. Carlstadt, NJ ●
9. Carrollton, TX ●
10. Chicago, IL ●
11. Corona, CA ●
12. Cornwall, ON ●
13. Danville, VA ● ▲
14. Delta, BC ●
15. Everetts, NC ●
16. Marysville, MI ●
17. Menasha, WI ●
18. Midland, NC ●
19. Montreal, QC ★
20. Salisbury, NC ●
21. Sarasota, FL ☆
22. Schaumburg, IL ■
23. Springfield, OH ●
24. Toronto, ON ●
25. Tremonton, UT ●
26. Truro, NS ●

EUROPE

27. Flensburg, Germany ▲
28. Porto, Portugal ●

ASIA

29. Chopanki, India ●
30. Daman, India ●
31. Dahej, India ●
32. Jiangmen City, China ●
33. Karoli, India ●

● Manufacturing ■ Machine Assembly ▲ Distribution
★ Corporate Headquarters ☆ Executive Headquarters

Our Vision

Our Commitment

"Our longstanding and simple corporate mantra of "just do the right thing" is as relevant today as ever. Embracing sustainability is one of the areas where we believe IPG can impact our employees, the communities where we live, our customers including end-users of our products, our suppliers, and our shareholders." said Greg Yull, President and CEO of IPG. "We will continue to do the right thing for People, Planet and Profitability, bringing a sustainable future closer through our actions and impacts every day."

IPG subscribes to externally developed economic, environmental, and social charters, principles and other initiatives that align with our sustainability efforts.

APR Recycling DEMAND CHAMPIONS

CERTIFIED cradle to cradle PRODUCTS PROGRAM

ecovadis

ENERGY STAR AWARD 2021 PARTNER OF THE YEAR Sustained Excellence

Operation Clean Sweep®

SmartWay®

SUSTAINABLE PACKAGING COALITION

Member of How2Recycle

BUILT FOR BETTER FOR PLANET

WE SUPPORT UN GLOBAL COMPACT

THE CLIMATE PLEDGE

Working with Experts

Company

Product

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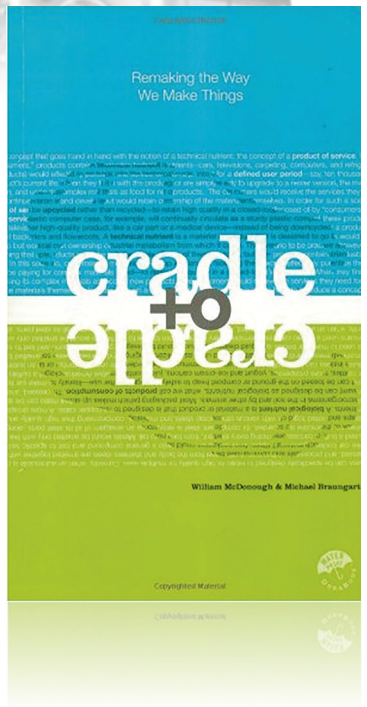
William McDonough

- Co-author of Cradle to Cradle
- Leader in circular economy
- Manager of MBDC, Cradle to Cradle Certified® assessors responsible for complex evaluations and monitoring for improvement



"Making the transition from less bad to more good"
Jay Bolus, VP Sustainability, IPG

Multi-Attribute Certifications

Company

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CERTIFIED

cradle to cradle

PRODUCTS PROGRAM

material health

product circularity

clean air & climate protection

water & soil stewardship

social fairness

Our Circular Economy

Company

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Eliminating the concept of waste

Our Sustainable Product Design and Development Vision Statement directs the application of “safe and circular” concepts to our products’ design and development. We have committed to eliminating toxic substances from new and existing products and incorporating recycled and renewable materials while maintaining product performance. Achieving a circular economy is a long-term objective, and we are dedicated to working towards it.

The Circular Economy emulates natural life cycles, and eliminates the concept of waste so that all products and their components become “food” for other systems- either biological (returning to nature) or technical (returning to industry).

Curby Products

Company

Product

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- Curbside pickup friendly products
- "**Widely Recyclable**" and part of How2Recycle
- FTC Green Guides Definition: When recycling facilities are available to a substantial majority of consumers or communities where the item is sold, marketers can make unqualified **recyclable** claims. The term "substantial majority," as used in this context, means at least 60 percent.
- **Easy** homeowner **compliance**
- **Additive** to the recycling value stream

Curby Mailers

Curby Mailer^{HD}

- **100% Curbside Recyclable Mailer**
- "**Edge to Edge and Seam to Seam**" cushioning
- **Heavy Duty** paper construction ideal for shipping fragile items
- A "one to one" **renewable replacement** for single use plastic mailers
- "**How to Recycle** – paper bag" approved
- Employs a **patented** production process
- Made in the USA, with US and Globally Sourced Materials

Curby Mailer™

- **100% Curbside Recyclable Mailer**
- "**Edge to Edge and Seam to Seam**" cushioning
- A "one to one" **renewable replacement** for single use plastic mailers
- "**How to Recycle** – paper bag" approved
- Employs a **patented** production process
- Made in the USA, with US and Globally Sourced Materials

Made from Recycable Paper!

Cradle to Cradle Certification

Cradle to Cradle Certification is a rigorous auditing process across five critical performance categories: material health, product circularity, clean air and climate protection, water and soil stewardship, and social fairness. A product is assigned an achievement level (Bronze, Silver, Gold, Platinum) for each category. A product's lowest category achievement also represents its overall certification level.

In an ongoing effort to provide the market with sustainable packaging alternatives, IPG® has implemented the demanding standards held under the Cradle to Cradle certification process.

William McDonough and Dr. Michael Braungart first introduced Cradle to Cradle® as a circular design philosophy in the 1990s. Together, they founded the Cradle to Cradle Products Innovation Institute in 2010. The institute is an independent, non-profit organization whose mission is dedicated to transforming the safety, health and sustainability of products through the administration of the Cradle to Cradle Certified® Product Standard.

Curby Mailer HD

As of August 2021, IPG's Curby Mailer HD is Cradle to Cradle Certified® Silver.
The latest and most innovative protective mailer on the market, the Curby Mailer HD contains 60% recycled content, minimum 42% post consumer. Its integrated honeycomb paper structure effectively replaces the air-filled bubbles in poly and poly-paper padded mailers.

Curby Mailer

As of February 2022, IPG's Curby Mailer is Cradle to Cradle Certified® Silver.
An extension to the line, the Curby Mailer utilizes a lighter weight to reduce the individual weight of the mailer itself. The Curby Mailer replaces the air-filled bubbles in poly and poly-paper padded mailers and provides excellent cushioning with its integrated honeycomb paper structure.

Product Information – Curby Mailers

Company
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Product name:

Curby Mailer

Product description:

IPG Curby Mailers are made from recycled (HD version only) and recyclable paper and lined with an innovative honeycomb paper structure – a patent-pending cushioning material that offers substantial benefits over traditional wrapping materials, including bubble, bubble-on-demand, foam, and other paper materials. The Curby Mailer was designed to replace and offer better protection than traditional polybubble and Kraft mailers. The Curby Mailers are packaged in quantities of 80 mailers per carton for single use and the Curby Mailer^{HD} are packaged 60 mailers per carton for single use.

UN CPC code:

UN CPC 3215

Geographical scope:

North America

Product Information

Company
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Curby Mailer^{HD} #2	Curby Mailer #2
Internal Length (in) - 9.5" External Width (in) - 11.375" Lip Depth (in) - 2″ Weight - 4.05E-02kg or 40.50g	Internal Length (in) - 9.5" External Width (in) - 11.375" Lip Depth (in) - 2″ Weight - 3.46E-02kg or 34.60g

Curby Mailer^{HD} #5	Curby Mailer #5
Internal Length (in) - 15.5" External Width (in) - 11.375" Lip Depth (in) - 2″ Weight – 6.56E-02kg or 65.60g	Internal Length (in) - 15.5" External Width (in) - 11.375" Lip Depth (in) - 2″ Weight – 5.63E-02kg or 56.30g

Curby Mailer^{HD} #6	Curby Mailer #6
Internal Length (in) - 18.5" External Width (in) - 13.375" Lip Depth (in) - 2″ Weight – 9.15E-02kg or 91.50g	Internal Length (in) - 18.5" External Width (in) - 13.375" Lip Depth (in) - 2″ Weight – 7.85E-02kg or 78.50g

LCA Information

Functional unit / declared unit:

per one mailer

Reference service life:

single use

Curby Mailer^{HD} Internal volume:

Curby Mailer^{HD} #2: 0.0028 m3

Curby Mailer^{HD} #5: 0.0057 m3

Curby Mailer^{HD} #6: 0.0098 m3

Capacity:

2.3 kg max for all mailer sizes

Curby Mailer Internal volume:

Curby Mailer #2: 0.0028 m3

Curby Mailer #5: 0.0057 m3

Curby Mailer #6: 0.0098 m3

Capacity:

2.3 kg max for all mailer sizes

Compression and destacking values:

Compression and stacking values required by the reference PCR are not shown because they are not considered relevant by the market/customer to define the function of the product subject to this EPD.

Time representativeness:

Primary data for electricity and scrap rate at IPG production facility and material composition and supplier information from 2021.

Database(s) and LCA software used:

GaBi LCA Software version 8.0

Sphera database 2021, US LCI Database 2021

LCA Information

Description of system boundaries:

Life cycle stage	Life cycle module	Life cycle module group	EPD Type Functional Unit: Cradle-Grave
Upstream	A1) Raw material supply	A1-A3) Product stage	Declared
Core	A2) Transport		Declared
	A3) Manufacturing		Declared
Downstream	A4) Transport to forming or filling	A4-A5) Forming stage	Module not declared, MND
	A5) Forming		Module not declared, MND
	B1) Filling operation	B1-B5) Use stage	Declared
	B2) Distribution of filled packaging		Declared
	B3) Transport to reconditioning		Module not declared, MND
	B4) Reconditioning		Module not declared, MND
	B5) Transport to re-filling point		Module not declared, MND
	C1) Disassembling/sorting	C1-C3) End of life stage	Declared
	C2) Transport to recovery/disposal		Declared
	C3) Final disposal		Declared

Excluded lifecycle stages: Downstream Module

A4) Transport to Forming or Filling (Module Not Declared, MND)
Product is sold unfilled to the final consumer and shipped to distributor from manufacturing facility

A5) Packaging Forming (Module Not Declared, MND)
Product is formed during manufacturing

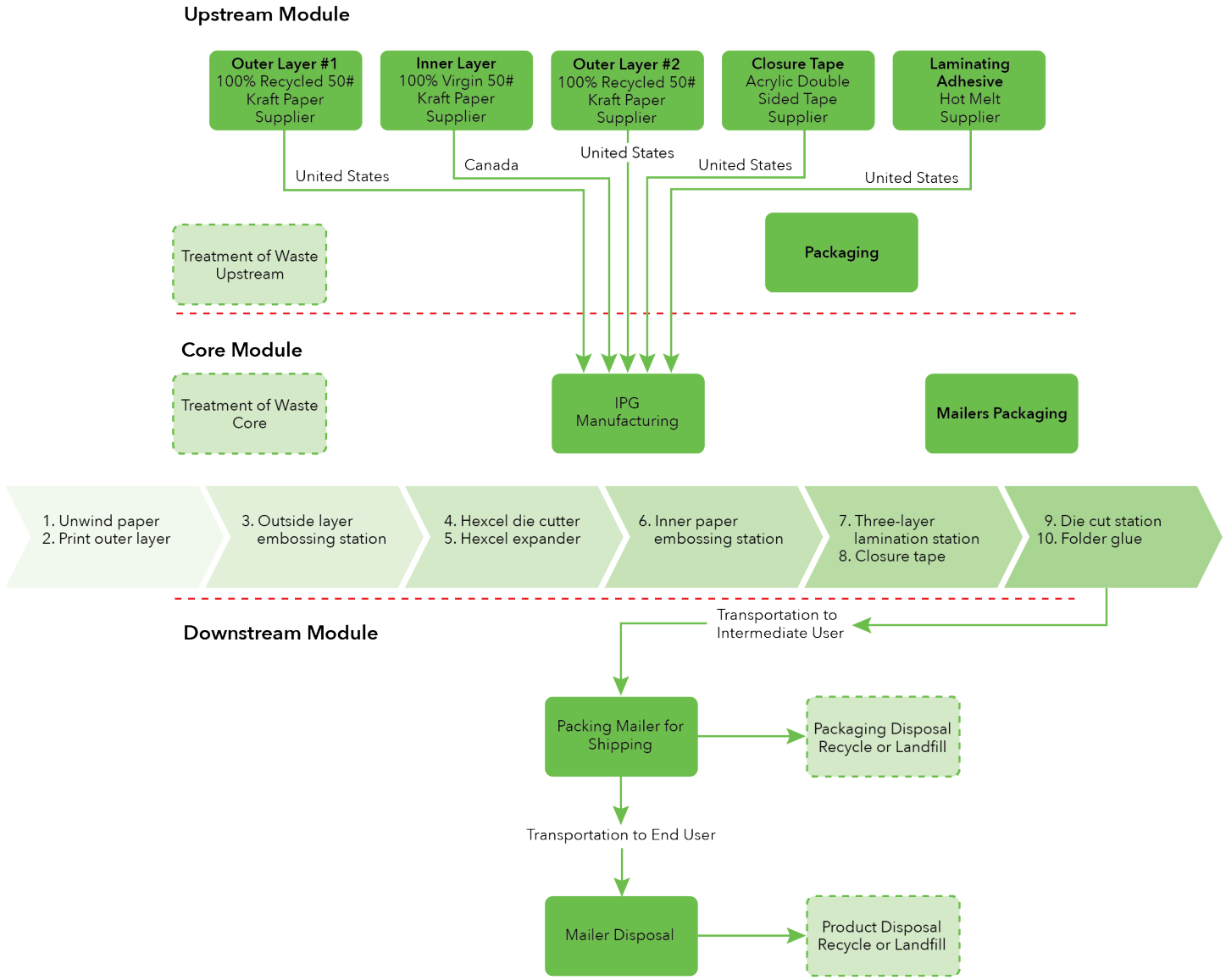
B3) Transport to Reconditioning (Module Not Declared, MND)
Product is single use

B4) Reconditioning (Module Not Declared, MND)
Product is single use

B5) Transport to Re-Filling Point (Module Not Declared, MND)
Product is single use

LCA Information

Curby Mailer^{HD} process system diagram



Content Declaration: Curby Mailer^{HD} #2

Company
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Product

Materials / chemical substances

100% Recycled 50# Kraft Paper
65%
kg 2.62E-02 per mailer

100% Virgin 50# Kraft Paper
26%
kg 1.07E-02 per mailer

Acrylic Double-Sided Tape
1%
kg 4.70E-04 per mailer

Hot Melt Adhesive
8%
kg 3.14E-03 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 9.45E-03 kg per mailer.

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
100% Recycled 50# Kraft Paper

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer^{HD} #2

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	4.37E-02	1.84E-02	1.17E-02	7.38E-02
	Biogenic	kg CO_2 eq.	5.05E-02	9.88E-05	3.64E-03	5.42E-02
	Land use and land transformation	kg CO_2 eq.	4.43E-05	5.43E-07	4.41E-08	4.49E-05
	TOTAL	kg CO_2 eq.	9.42E-02	1.85E-02	1.53E-02	1.28E-01
Acidification potential (AP)		kg SO_2 eq.	1.36E-04	8.75E-05	5.57E-05	2.79E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	4.25E-05	1.58E-05	1.33E-05	7.16E-05
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	6.02E-07	1.05E-05	8.62E-06	1.97E-05
Abiotic depletion potential – Elements		kg Sb eq.	9.42E-08	3.09E-10	1.38E-10	9.46E-08
Abiotic depletion potential – Fossil resources		MJ, net calorific value	6.82E-01	2.31E-01	1.12E-01	1.03E+00
Water scarcity potential		m^3 eq.	2.88E-04	3.64E-06	1.50E-06	2.93E-04

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	8.94E-01	2.72E-03	2.98E-04	8.97E-01
	Used as raw materials	MJ, net calorific value	6.20E-03	2.14E-14	6.56E-15	6.20E-03
	TOTAL	MJ, net calorific value	9.00E-01	2.72E-03	2.98E-04	9.03E-01
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	7.79E-01	2.40E-01	1.13E-01	1.13E+00
	Used as raw materials	MJ, net calorific value	3.70E-05	4.33E-07	2.11E-14	3.74E-05
	TOTAL	MJ, net calorific value	7.79E-01	2.40E-01	1.13E-01	1.13E+00
Secondary material		kg	2.62E-02	0	0	2.62E-02
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	9.00E-04	7.42E-06	4.41E-06	9.12E-04

Environmental Performance: Curby Mailer^{HD} #2

Waste Production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	7.90E-08	2.28E-12	1.06E-09	8.01E-08
Non-hazardous waste disposed	kg	1.20E-03	7.90E-06	5.95E-03	7.16E-03
Radioactive waste disposed	kg	1.71E-05	2.83E-06	6.11E-08	2.00E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	2.03E-04	2.21E-03	4.05E-02	4.29E-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

Content Declaration: Curby Mailer^{HD} #5

Company
Product
Content Declaration
Environmental Performance
Additional Information

Product

Materials / chemical substances

100% Recycled 50# Kraft Paper
63%
kg 4.12E-02 per mailer

100% Virgin 50# Kraft Paper
26%
kg 1.69E-02 per mailer

Acrylic Double-Sided Tape
1%
kg 4.70E-04 per mailer

Hot Melt Adhesive
10%
kg 7.00E-03 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 1.24E-02 kg per mailer.

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
100% Recycled 50# Kraft Paper

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer^{HD} #5

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	7.77E-02	2.80E-02	1.85E-02	1.24E-01
	Biogenic	kg CO_2 eq.	7.96E-02	1.05E-04	5.89E-03	8.56E-02
	Land use and land transformation	kg CO_2 eq.	6.48E-05	5.43E-07	7.14E-08	6.54E-05
	TOTAL	kg CO_2 eq.	1.57E-01	2.81E-02	2.44E-02	2.10E-01
Acidification potential (AP)		kg SO_2 eq.	2.27E-04	1.37E-04	8.76E-05	4.52E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	6.91E-05	2.47E-05	2.10E-05	1.15E-04
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	2.93E-06	1.65E-05	1.36E-05	3.30E-05
Abiotic depletion potential – Elements		kg Sb eq.	1.64E-07	3.12E-10	2.24E-10	1.65E-07
Abiotic depletion potential – Fossil resources		MJ, net calorific value	1.24E+00	3.52E-01	1.75E-01	1.77E+00
Water scarcity potential		m^3 eq.	4.68E-04	3.64E-06	2.43E-06	4.74E-04

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1.40E+00	2.72E-03	4.83E-04	1.40E+00
	Used as raw materials	MJ, net calorific value	9.79E-03	2.14E-14	1.06E-14	9.79E-03
	TOTAL	MJ, net calorific value	1.41E+00	2.72E-03	4.83E-04	1.41E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1.40E+00	3.62E-01	1.77E-01	1.94E+00
	Used as raw materials	MJ, net calorific value	5.35E-05	4.33E-07	3.42E-14	5.39E-05
	TOTAL	MJ, net calorific value	1.40E+00	3.62E-01	1.77E-01	1.94E+00
Secondary material		kg	4.12E-02	0	0	4.12E-02
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	1.45E-03	7.42E-06	7.13E-06	1.46E-03

Environmental Performance: Curby Mailer^{HD} #5

Waste Production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1.58E-07	2.28E-12	1.71E-09	1.60E-07
Non-hazardous waste disposed	kg	1.96E-03	7.90E-06	9.63E-03	1.16E-02
Radioactive waste disposed	kg	2.91E-05	2.83E-06	9.88E-08	3.20E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	3.90E-04	3.49E-03	6.55E-02	6.94E-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

Content Declaration: Curby Mailer^{HD} #6

Company
Product
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Additional Information

Product

Materials / chemical substances

100% Recycled 50# Kraft Paper
63%
kg 5.74E-02 per mailer

100% Virgin 50# Kraft Paper
26%
kg 2.35E-02 per mailer

Acrylic Double-Sided Tape
1%
kg 5.50E-04 per mailer

Hot Melt Adhesive
10%
kg 1.00E-02 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 1.09E-02 kg per mailer.

Recycled material

Provenience of recycled materials (pre-consumer or post-consumer) in the product:
100% Recycled 50# Kraft Paper

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer^{HD} #6

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.07E-01	3.88E-02	2.47E-02	1.71E-01
	Biogenic	kg CO_2 eq.	1.11E-01	1.41E-04	8.22E-03	1.19E-01
	Land use and land transformation	kg CO_2 eq.	8.30E-05	7.24E-07	9.96E-08	8.38E-05
	TOTAL	kg CO_2 eq.	2.18E-01	3.89E-02	3.29E-02	2.90E-01
Acidification potential (AP)		kg SO_2 eq.	3.11E-04	1.89E-04	1.17E-04	6.17E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	9.48E-05	3.43E-05	2.83E-05	1.57E-04
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	3.93E-06	2.28E-05	1.84E-05	4.51E-05
Abiotic depletion potential – Elements		kg Sb eq.	2.25E-07	4.17E-10	3.11E-10	2.26E-07
Abiotic depletion potential – Fossil resources		MJ, net calorific value	1.72E+00	4.87E-01	2.31E-01	2.44E+00
Water scarcity potential		m^3 eq.	6.49E-04	4.85E-06	3.39E-06	6.57E-04

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1.95E+00	3.63E-03	6.74E-04	1.95E+00
	Used as raw materials	MJ, net calorific value	1.36E-02	2.85E-14	1.48E-14	1.36E-02
	TOTAL	MJ, net calorific value	1.96E+00	3.63E-03	6.74E-04	1.97E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1.94E+00	5.01E-01	2.33E-01	2.67E+00
	Used as raw materials	MJ, net calorific value	6.83E-05	5.77E-07	4.77E-14	6.89E-05
	TOTAL	MJ, net calorific value	1.94E+00	5.01E-01	2.33E-01	2.67E+00
Secondary material		kg	5.74E-02	0	0	5.74E-02
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	2.01E-03	9.90E-06	9.95E-06	2.03E-03

Environmental Performance: Curby Mailer^{HD} #6

Waste Production

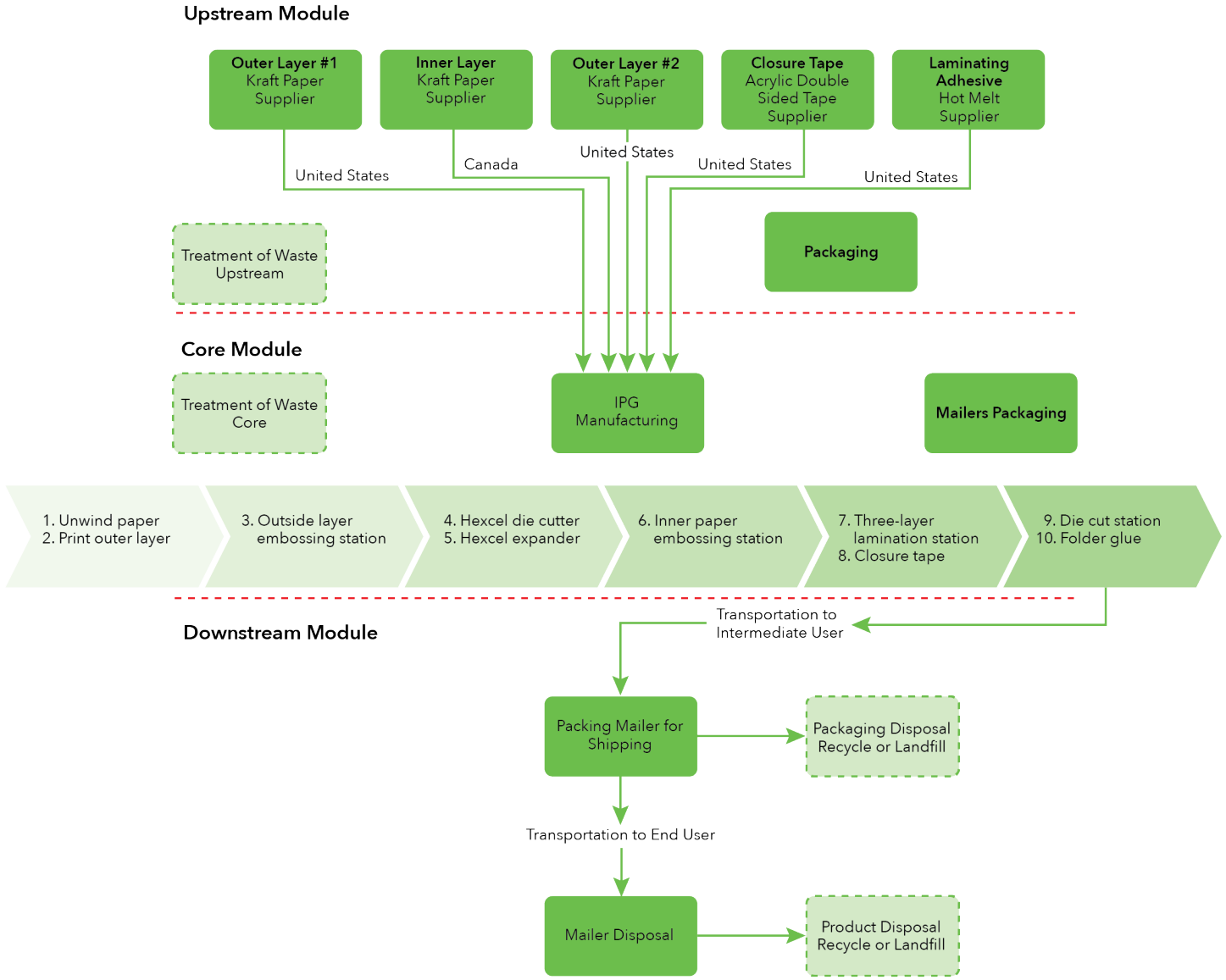
PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	2.23E-07	3.04E-12	2.39E-09	2.25E-07
Non-hazardous waste disposed	kg	2.70E-03	1.05E-05	1.34E-02	1.61E-02
Radioactive waste disposed	kg	3.98E-05	3.77E-06	1.38E-07	4.37E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	4.57E-04	4.85E-03	8.52E-02	9.05E-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

LCA Information

Curby Mailer process system diagram



Content Declaration: Curby Mailer #2

Company
Product
Content Declaration
Environmental Performance
Additional Information

Product

Materials / chemical substances

100% Virgin 40# Kraft Paper
64%
kg 2.20E-02 per mailer

100% Virgin 43# Kraft Paper
26%
kg 8.99E-03 per mailer

Acrylic Double-Sided Tape
1%
kg 4.70E-04 per mailer

Hot Melt Adhesive
9%
kg 3.14E-03 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 9.45E-03 kg per mailer.

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer #2

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	4.97E-02	1.57E-02	1.02E-02	7.56E-02
	Biogenic	kg CO_2 eq.	3.54E-02	9.71E-05	3.11E-03	3.86E-02
	Land use and land transformation	kg CO_2 eq.	1.23E-05	5.43E-07	3.77E-08	1.29E-05
	TOTAL	kg CO_2 eq.	8.51E-02	1.58E-02	1.33E-02	1.14E-01
Acidification potential (AP)		kg SO_2 eq.	1.52E-04	7.41E-05	4.88E-05	2.75E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	5.98E-05	1.33E-05	1.16E-05	8.47E-05
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	1.24E-06	8.88E-06	7.50E-06	1.76E-05
Abiotic depletion potential – Elements		kg Sb eq.	8.64E-08	3.07E-10	1.18E-10	8.68E-08
Abiotic depletion potential – Fossil resources		MJ, net calorific value	7.47E-01	1.98E-01	9.86E-02	1.04E+00
Water scarcity potential		m^3 eq.	6.86E-04	3.64E-06	1.28E-06	6.91E-04

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1.96E-02	2.72E-03	2.55E-04	2.26E-02
	Used as raw materials	MJ, net calorific value	1.80E-02	2.14E-14	5.60E-15	1.80E-02
	TOTAL	MJ, net calorific value	3.76E-02	2.72E-03	2.55E-04	4.06E-02
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	9.24E-02	2.06E-01	9.96E-02	3.98E-01
	Used as raw materials	MJ, net calorific value	9.30E-06	4.33E-07	1.80E-14	9.73E-06
	TOTAL	MJ, net calorific value	9.24E-02	2.06E-01	9.96E-02	3.98E-01
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	2.03E-03	7.42E-06	3.76E-06	2.04E-03

Environmental Performance: Curby Mailer #2

Company
Product
Content Declaration
Environmental Performance
Additional Information

Waste Production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	7.25E-08	2.28E-12	9.05E-10	7.34E-08
Non-hazardous waste disposed	kg	2.33E-04	7.90E-06	5.08E-03	5.32E-03
Radioactive waste disposed	kg	8.60E-06	2.83E-06	5.22E-08	1.15E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	2.02E-04	1.86E-03	3.75E-02	3.96E-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

Content Declaration: Curby Mailer #5

Product

Materials / chemical substances

100% Virgin 40# Kraft Paper
62%
kg 3.46E-02 per mailer

100% Virgin 43# Kraft Paper
25%
kg 1.42E-02 per mailer

Acrylic Double-Sided Tape
1%
kg 4.70E-04 per mailer

Hot Melt Adhesive
12%
kg 7.00E-03 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 1.24E-02 kg per mailer.

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer #5

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	8.78E-02	2.39E-02	1.61E-02	1.28E-01
	Biogenic	kg CO_2 eq.	5.58E-02	1.02E-04	5.06E-06	5.59E-02
	Land use and land transformation	kg CO_2 eq.	1.72E-05	5.43E-07	6.13E-08	1.78E-05
	TOTAL	kg CO_2 eq.	1.44E-01	2.40E-02	1.61E-02	1.84E-01
Acidification potential (AP)		kg SO_2 eq.	2.55E-04	1.16E-04	7.67E-05	4.48E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	9.70E-05	2.09E-05	1.83E-05	1.36E-04
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	4.09E-06	1.39E-05	1.19E-05	2.99E-05
Abiotic depletion potential – Elements		kg Sb eq.	1.53E-07	3.11E-10	1.92E-10	1.54E-07
Abiotic depletion potential – Fossil resources		MJ, net calorific value	1.36E+00	3.00E-01	1.54E-01	1.81E+00
Water scarcity potential		m^3 eq.	1.10E-03	3.64E-06	2.09E-06	1.11E-03

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	3.21E-02	2.72E-03	4.14E-04	3.52E-02
	Used as raw materials	MJ, net calorific value	2.83E-02	2.14E-14	9.11E-15	2.83E-02
	TOTAL	MJ, net calorific value	6.04E-02	2.72E-03	4.14E-04	6.35E-02
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1.64E+00	3.10E-01	1.56E-01	2.11E+00
	Used as raw materials	MJ, net calorific value	1.22E-05	4.33E-07	2.93E-14	1.26E-05
	TOTAL	MJ, net calorific value	1.64E+00	3.10E-01	1.56E-01	2.11E+00
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	3.23E-03	7.42E-06	6.12E-06	3.24E-03

Environmental Performance: Curby Mailer #5

Waste Production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	1.48E-07	2.28E-12	1.47E-09	1.49E-07
Non-hazardous waste disposed	kg	4.56E-04	7.90E-06	8.26E-03	8.72E-03
Radioactive waste disposed	kg	2.71E-05	2.83E-06	8.48E-08	3.00E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	3.06E-04	2.93E-03	5.85E-02	6.17E-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

Content Declaration: Curby Mailer #6

Product

Materials / chemical substances

100% Virgin 40# Kraft Paper
61%
kg 4.82E-02 per mailer

100% Virgin 43# Kraft Paper
25%
kg 1.97E-02 per mailer

Acrylic Double-Sided Tape
1%
kg 5.50E-04 per mailer

Hot Melt Adhesive
13%
kg 1.00E-02 per mailer

Packaging

Distribution/Consumer packaging:
Corrugated cardboard box weighing 1.09E-02 kg per mailer.

Environmental / hazardous properties

N/A

Environmental Performance: Curby Mailer #6

Potential Environmental Impact

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1.21E-01	3.30E-02	2.14E-02	1.75E-01
	Biogenic	kg CO_2 eq.	7.76E-02	1.37E-04	7.06E-03	8.48E-02
	Land use and land transformation	kg CO_2 eq.	1.66E-05	7.24E-07	8.55E-08	1.74E-05
	TOTAL	kg CO_2 eq.	1.99E-01	3.31E-02	2.85E-02	2.60E-01
Acidification potential (AP)		kg SO_2 eq.	3.50E-04	1.60E-04	1.01E-04	6.11E-04
Eutrophication potential (EP)		kg PO_4^{3-} eq.	1.34E-04	2.89E-05	2.46E-05	1.88E-04
Photochemical oxidant formation potential (POFP)		kg NMVOC eq.	5.54E-06	1.93E-05	1.59E-05	4.07E-05
Abiotic depletion potential – Elements		kg Sb eq.	2.09E-07	4.15E-10	2.67E-10	2.10E-07
Abiotic depletion potential – Fossil resources		MJ, net calorific value	1.88E+00	4.14E-01	2.01E-01	2.50E+00
Water scarcity potential		m^3 eq.	1.52E-03	4.85E-06	2.91E-06	1.53E-03

Use of Resources

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	3.81E-02	3.63E-03	5.78E-04	4.23E-02
	Used as raw materials	MJ, net calorific value	3.94E-02	2.85E-14	1.27E-14	3.94E-02
	TOTAL	MJ, net calorific value	7.75E-02	3.63E-03	5.78E-04	8.17E-02
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	2.27E+00	4.28E-01	2.03E-01	2.90E+00
	Used as raw materials	MJ, net calorific value	1.07E-05	5.77E-07	4.09E-14	1.13E-05
	TOTAL	MJ, net calorific value	2.27E+00	4.28E-01	1.59E-01	2.86E+00
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	4.48E-03	9.90E-06	8.54E-06	4.50E-03

Environmental Performance: Curby Mailer #6

Waste Production

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Hazardous waste disposed	kg	2.09E-07	3.04E-12	2.05E-09	2.11E-07
Non-hazardous waste disposed	kg	6.11E-04	1.05E-05	1.15E-02	1.21E-02
Radioactive waste disposed	kg	2.16E-05	3.77E-06	1.18E-07	2.55E-05

Output Flows

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
Components for reuse	kg	0	0	0	0
Material for recycling	kg	3.94E-04	4.08E-03	7.44E-02	7.89E-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

References

- EPA (2021) Containers and packaging: product-specific data – paper and paperboard containers and packaging. United States Environmental Protection Agency. Retrieved from https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/containers-and-packaging-product-specific-data#PaperandPaperboardC&P
- EPD International (2017) General Programme Instructions for the International EPD® System. Version 3.0, dated 2017-12-11. www.environdec.com
- ISO (2006b), ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework.
- ISO (2006c), ISO 14044: 2006, Environmental management – Life cycle assessment – Requirements and guidelines.
- ISO (2006a), ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.
- PCR (2019:13). Packaging. Version 1.1.
- Sphera (2021). GaBi LCA Software.

Differences Versus Previous Versions
2023-05-16 Version 1
2023-07-05 Version 1.1 Editorial changes: Changed contact email, corporate logo.

Thank You!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