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Environmental Product Declaration

upCentric® L-Shaped Desk

UP-3L

The upCentric® Electric Height Adjustable L-Shaped Desks are designed to encourage movement to employees required to sit for extended periods of time; to decrease stress and tension, and to increase productivity and employee satisfaction. The intuitive and easy-to-use up/down controls and four settable memory positions make setting the desired height a simple press of a button. The table can be used for many purposes, but is primarily used as an office desk supporting a single occupant.

All upCentric height adjustable desks include a patented gyro sensor anti-collision system for enhanced safety and reduced injuries and damage to property. The crossbar-free design provides optimal knee clearance and space for storage. The specific tabletop for this study is 48” x 42” for the primary work surface and an additional 24” x 24” surface on the side. This is the same as the occupied floor area.

The life cycle assessment of UP-3L is performed in accordance with the ISO standards 14025 (2006), 14040 (2006), 14044 (2006), 21930 (2017), and BIFMA PCR for Tables: UNCPC 3812.

UP-3L complies with ANSI/BIFMA X5.5 and comes with a 12-year warranty. 60% of one table is required to meet the functional unit of one square meter of physical floor space for a 10-year period. In other words, multiply the results per functional unit by 1.672 to see the results for a whole table.

For additional information visit the following websites:
[Our environmental commitment]
[Product information]
[Product warranty]

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EPD commissioner	ergoCentric
Manufacturing facility addresses	5970 Chedworth Way, Mississauga, Ontario L5R 4G5, Canada 2079 Congressional Dr, St Louis, Missouri 63146, United States
Product group	Table
Product name	UP-3L
Product intended use	Multi-purpose office table
Product reference service life	10 years
Reference standards	ISO 14025, ISO 14040, ISO 14044, ISO 21930
EPD scope	Cradle to Grave
EPD number	EPD10847
EPD date of validity	June 12, 2023
EPD date of expiration	June 12, 2028
EPD type	Product specific
EPD product coverage	The model chosen for this analysis is UP-3L table with 1.672 square meter surface with particle board and laminate tabletop (Model # UP-3L-SILVER-L-48482424-11-21-FM-90)
Intended audience	Business to Business
Year of reported manufacturer data	2021
Functional unit	One square meter of physical floor space for a period of 10 years
Applicable markets/regions	North America
LCA software and database version	SimaPro 9.4 (2022), Ecoinvent 3.8, USLCI
LCIA methodology and version number	TRACI 2.1, IPCC AR6
Program administrator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Reference PCR and version number	BIFMA PCR for Tables: UNCPC 3812
The PCR review was conducted by:	Review Panel Tabled by Dr. Thomas Gloria
This declaration and its life cycle assessment was independently verified in accordance with ISO 14025: 2006, ISO 14040: 2006, 14044:2006, 21930:2017 and the reference PCR: BIFMA PCR for Tables UNCPC 3812, 2021. Type of review ☐ INTERNAL ☒ EXTERNAL	Jack Geibig, jgeibig@ecoform.com
The reference life cycle assessment was conducted in accordance with ISO 14040, 14044, 21930, and the referenced PCR by NSF external LCA team members:	Jim Mellentine jmellentine@nsf.org
Disclaimer - This EPD was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the results due to and not limited to the practitioner's assumptions, the source of the data used in the study and the software tool used to conduct the study. EPDs are comparable only if they comply with ISO 21930, use the same sub-category PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works.	

Reference flow

One square meter of physical floor space for a period of 10 years. The subject table is 1.672 square meters (with equivalent floor space occupied), so reported results should be multiplied by 1.672 to obtain results for one whole table. No other configurations are represented by these results. The UP-3L office table was chosen for this study based on sales.

Material content

The following tables list the materials contained in both the product and associated product packaging.

***Table 1** – Material contents of the UP-3L table (whole table)*

Material	Weight (kg)	Weight (%)
Particle board	127	64.8%
Steel	61.9	31.6%
Plastic	2.27	1.2%
Paper	1.42	0.7%
Laminate	1.36	0.7%
Motor	0.72	0.4%
Cable	0.57	0.3%
Electronics	0.46	0.2%
ABS	0.25	0.1%
Glue	0.06	<0.1%
Total	196	100%

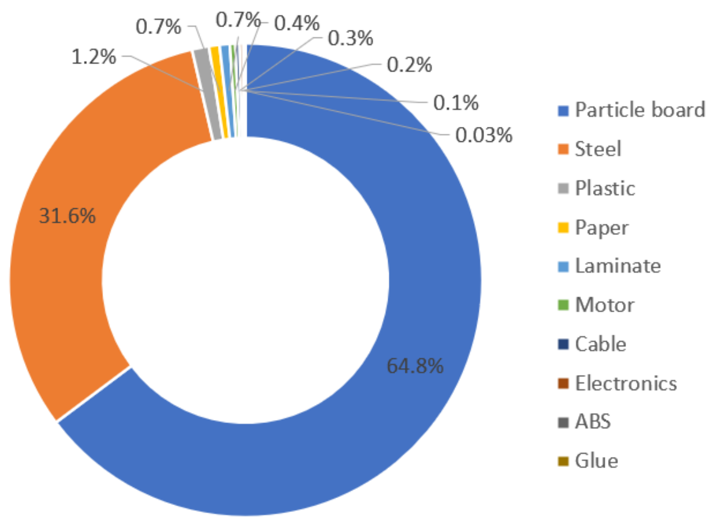

***Figure 1** – Material contents of the UP-3L table*

***Table 2** – UP-3L product packaging materials (whole table)*

Packaging	Weight (kg)	Weight (%)
Cardboard	4.42	100%
Total	4.42	100%

The recycled content of the table is approximately 21% due to the use of industry average scrap content of steel used in the table. The background data set used does not specify the portion of scrap that is preconsumer versus postconsumer.

Goal and scope

The potential environmental impacts of UP-3L (including packaging) throughout its entire life cycle were assessed conforming to international standards for life cycle assessment (ISO 14040/14044) (2006) and the BIFMA PCR for Tables: UNCPC 3812. This business-to-business Type III declaration conforms to ISO 14025 (2006) and considers the typical UP-3L table with table top dimensions 48" x 42" x 24" x 24", a surface area of 1.672 square meters and weight 195.94 kg excluding packaging. The studied packaging system for this assessment includes cardboard, with packaging weight 4.42 kg.

Functional unit

One square meter of physical floor space occupied by the table for a period of 10 years.

System boundary

The life cycle assessment considers the full life cycle of the product (cradle to grave). This includes all activities from raw material acquisition and pre-processing, production, product distribution and storage, use and maintenance, and end-of-life management. The stages of the life cycle were separated into modules according to the PCR and ISO 21930, as shown in Figure 2. The ISO 21930 results are shown in the appendix.

PCR stages	Materials acquisition and preprocessing		Production	Distribution, storage, and use									End of life			
ISO 21930 stages and information modules	Production			Construction		Use							End of life			
	Extraction and upstream production	Transport to factory	Manufacturing	Transport to site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/Demolition	Transport	Waste processing	Disposal of waste
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Note – MND = module not declared; X = module included															

***Figure 2** - Life cycle stages and modules according to the PCR and ISO 21930*

The life cycle stages included in this assessment follow the BIFMA PCR for Tables: UNCPC 3812. The table above identifies the life cycles stages and information modules in scope and considered in this life cycle assessment.
It is important to clarify that for installation, maintenance, repair, replacement, refurbishment, operational water use, deconstruction/demolition, and waste processing, the study assumes there is no relevant activity and therefore no impacts to report. Therefore, they have zero contribution to the overall life cycle assessment of the table. While these stages are included in the system boundary, for ease of formatting they are not specifically included in the results tables in this document.

Allocation

The general principles of allocation were provided by the PCR, which is aligned with the ISO 14044 and ISO 21930 standards. Each of the ergoCentric facilities assemble multiple products. The facility-wide inputs and outputs were evenly divided for each furniture unit produced. For materials that cross the system boundary, this study follows the cut-off approach. Any recovery processes for secondary (i.e., recycled) materials carry no burden as they enter the system, and likewise there is no allocation of impacts away from the studied system to any wastes that might be reused, recycled, or recovered for use in a subsequent product system.

Cut-off criteria

Cut-off criteria are used in LCA for the selection of processes or flows to be included in the system boundary. In the current study, cut-off criteria consistent with the PCR and ISO 21930 were used. Any mass, energy flow, or environmental impact within the product boundary, which consists of less than 1%, may be omitted. Cumulative omitted mass or energy flows shall not exceed 5%. In this study, all known mass and energy flows were included. Further, all substances with hazardous or toxic properties that can be of concern for human health and/or the environment must be identified and included even if it is less than 1% of the total mass. The products in this study do not contain any hazardous or toxic substances.

Product transport

The following information was used to represent transport impacts of the finished product.
Finished and packaged tables are shipped either direct to the customer, to a retail location, or to a distributor. The weighted average distances based on sales data were used.

Road transport

Table 3 *– Data used to model transport of final product to the installation site (per functional unit)*

Vehicle type	Distance (km)	Fuel economy (l/100 km)
Diesel-fueled combination truck	208	0.32
Gasoline-fueled passenger truck	1.5	0.93
Diesel-fueled light commercial truck	43.5	3.27

For retail and distributor destinations, additional electricity and natural gas quantities were estimated from average commercial data based on assumed duration of 30 days at those facilities.

Table 4 *– Energy consumed in retail and distribution buildings prior to arrival at the installation site (per functional unit)*

Building type	Electricity (kWh)	Natural gas (m3)
Retail	0.554	0.0267
Warehouse	1.38	0.121

Installation

The following information was used to represent installation of the product into the building. Some assembly is required by the final customer, which is done by hand with no energy, water, or other materials required. No product materials are wasted or otherwise output during installation, nor are any emissions to air, soil, or water generated. Outputs of packaging waste and transport of the packaging to a recycling or waste processing facility are included. The rate of recycling of cardboard is based on the EPA WARM model with a recycling rate of 68.2%. The remaining amount was assumed to be landfilled at a rate of 80% and incinerated (without energy recovery) at a rate of 20%. The mass and disposal pathway for packaging is shown in the table below. As a biogenic packaging material, the global warming potential of cardboard must be disclosed. We assume cardboard contains approximately 50% carbon by mass. Therefore, the carbon content of the cardboard is 2.21 kg C per table (1.32 kg C per m^2). Multiplying by 44/12 (the ratio of CO_2 molar mass per carbon molar mass) results in 8.11 kg CO_2e per table (4.85 kg CO_2e per m^2). The packaging waste is assumed to travel 32 km to a recycling/waste facility in a diesel-fueled refuse truck that consumes 3.83E-05 liters of fuel per kg-km.

***Table 5** – Packaging waste assumptions (per functional unit)*

Packaging waste and disposal pathway	Mass (kg)
Cardboard to landfill	0.778
Cardboard to recycling	1.81
Cardboard to incineration	0.168

Operational energy use

The UP-3L table uses electricity to move the table up and down to the user's preferred height. The motor for this table uses 320 watts of power during the active operation of adjusting the table height up and down. Per the PCR, this stage must assume 1 hour of active operation, thus 0.32 kWh of electricity for operation of the whole table (0.191 kWh per functional unit) was modeled in this stage. We used sales data to create a weighted average electricity mix to model this electricity consumption (approximately 90% of tables are sold in Canada and 10% in the United States). Alternative use assumptions are presented in an appendix at the end of this document to reflect a scenario with 10 years of typical use in order to satisfy the requirements of ISO 21930.

End of life materials handling

The deconstruction/demolition stage (C1) of the life cycle involves disassembling the table. This activity is done by hand, with no energy or materials needed. Homogeneous materials that can be disassembled are assumed to be recycled at a rate consistent with the US EPA waste statistics. The remaining material is assumed to be landfilled at a rate of 80% and incinerated (without energy recovery) at a rate of 20%. The table materials are assumed to be collected curbside along with other unrelated waste by a typical refuse truck. Due to the large proportion of steel and wood (commonly recyclable materials) in the product, the maximum potential recyclability of the product is approximately 96%. That rate is the maximum amount of the product that is recyclable, but depends on the availability of recycling facilities in the regions where used and the ability of the product to be disassembled. Note that, per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's recycling rates within the 2020 Municipal Solid Waste Report for parts that can be disassembled.

Table 6 *- Product disposal pathway assumptions (per functional unit)*

Disposal pathway	Weight (kg)	Weight (%)
Recycled	24.6	21.0%
Landfilled	74.0	63.2%
Incinerated	18.5	15.8%

The following components can be disassembled with common hand tools such as a wrench or screwdriver:

Feet	Power cord
Frame components	Fasteners
Particle board	Mounting brackets

End of life transport

The following information was used to represent transport impacts at the product's end of life.
The disassembled materials are either transported to a recycling facility, landfill, or waste incineration.
In each case, the assumed transport distance is 32 km as required by the PCR.

Road transport

Table 7 *- Product end-of-life transport assumptions (per functional unit)*

Vehicle type	Distance (km)	Fuel economy (l/100 km)
Diesel-fueled refuse truck	32.0	0.45

Life cycle assessment results

All results are given per functional unit. To obtain the results for one whole table, multiply by 1.672.

IPCC AR6

In the following table, global warming potential is abbreviated as GWP. Both 100-year (GWP-100) and 20-year (GWP-20) time horizons are reported based on factors in the International Panel on Climate Change (IPCC) sixth assessment report (AR6).

Indicator	Unit	Total	Materials acquisition and preprocessing	Production	Distribution, storage, and use	End of life
GWP-100 fossil	kg CO_2 eq	3.07E+02	1.82E+02	1.15E+02	7.77E+00	1.97E+00
GWP-100 biogenic	kg CO_2 eq	5.28E+01	1.30E+01	1.26E+01	1.62E+00	2.55E+01
GWP-100 land	kg CO_2 eq	7.69E-01	2.55E-01	4.96E-01	1.72E-02	3.41E-04
GWP-100 CO_2 uptake	kg CO_2 eq	-1.34E+02	-1.21E+02	-1.27E+01	-2.08E-02	-4.49E-03
GWP-100 net	kg CO_2 eq	2.26E+02	7.40E+01	1.15E+02	9.39E+00	2.75E+01
GWP-20 fossil	kg CO_2 eq	3.58E+02	2.19E+02	1.28E+02	8.34E+00	2.24E+00
GWP-20 biogenic	kg CO_2 eq	7.36E+01	1.43E+01	2.11E+01	3.54E+00	3.47E+01
GWP-20 land	kg CO_2 eq	7.71E-01	2.56E-01	4.98E-01	1.72E-02	3.47E-04
GWP-20 CO_2 uptake	kg CO_2 eq	-1.34E+02	-1.21E+02	-1.27E+01	-2.08E-02	-4.49E-03
GWP-20 net	kg CO_2 eq	2.98E+02	1.12E+02	1.37E+02	1.19E+01	3.69E+01

TRACI

In the following table, results are reported based on required indicators from The Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI), version 2.1.

Indicator	Unit	Total	Materials acquisition and preprocessing	Production	Distribution, storage, and use	End of life
Acidification potential	kg SO_2 eq	3.02E+02	1.82E+02	1.06E+02	8.55E+00	5.82E+00
Smog formation potential	kg O_3 eq	2.03E+00	1.21E+00	7.31E-01	6.92E-02	1.98E-02
Eutrophication potential	kg N eq	3.27E+01	1.55E+01	1.51E+01	1.76E+00	3.26E-01
Ozone depletion potential	kg CFC-11 eq	2.13E+00	1.28E+00	4.34E-01	1.18E-02	3.98E-01

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Resource use and waste indicators

The following inventory-based indicators are calculated using the suggested methods in the American Center for Life Cycle Assessment (ACLCA) Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017. The abiotic depletion potential metric uses the ReCiPe 2016 midpoint method.

Indicator	Unit	Total	Materials acquisition and preprocessing	Production	Distribution, storage, and use	End of life
Renewable primary resources used as energy carrier	MJ, LHV	3.75E+02	1.73E+02	1.98E+02	4.28E+00	1.74E-01
Renewable primary resources with energy content used as material	MJ, LHV	2.00E+03	1.14E+03	8.59E+02	0.00E+00	0.00E+00
Renewable primary energy demand, total	MJ, LHV	2.38E+03	1.32E+03	1.06E+03	4.28E+00	1.74E-01
Nonrenewable primary resources used as energy carrier	MJ, LHV	4.26E+03	2.50E+03	1.63E+03	1.16E+02	1.36E+01
Nonrenewable primary resources with energy content used as material	MJ, LHV	6.50E+01	6.50E+01	0.00E+00	0.00E+00	0.00E+00
Nonrenewable primary energy demand, total	MJ, LHV	4.32E+03	2.56E+03	1.63E+03	1.16E+02	1.36E+01
Primary Energy Demand, Total	MJ, LHV	6.70E+03	3.88E+03	2.68E+03	1.21E+02	1.38E+01
Secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable secondary fuels	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonrenewable secondary fuels	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy	MJ, LHV	2.86E+00	1.93E+00	8.82E-01	4.30E-02	2.14E-03
Freshwater consumed (net)	kg	0.00E+00	x	0.00E+00	0.00E+00	0.00E+00
Hazardous waste disposed*	kg	9.32E+01	0.00E+00	1.78E-02	8.41E-01	9.23E+01
Nonhazardous waste disposed*	kg	9.13E-02	4.38E-02	4.67E-02	5.53E-04	2.64E-04
High-level radioactive waste	kg	2.42E-02	4.74E-03	1.88E-02	6.45E-04	3.43E-06
Intermediate and low-level radioactive waste	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Components for reuse	kg	2.86E+01	x	2.20E-01	1.80E+00	2.66E+01
Materials for recycling*	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy exported from the product system	MJ, LHV	6.69E+01	5.08E+01	1.33E+01	2.49E+00	3.11E-01
Abiotic depletion potential for fossil resources	kg oil eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

** Most datasets for upstream materials do not quantify these metrics and thus results may be incomplete. Use caution when interpreting data in these categories.*

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Appendix: ISO 21930

ISO 21930 requires alternate assumptions for operational energy use, disclosure of GWP using the TRACI method, and disclosure of results for individual end-of-life pathways. This appendix contains results conforming to ISO 21930.

Regarding the operational energy use of the table, the scenario for ISO 21930 reflects an assumed use scenario over the 10-year functional unit. The UP-3L table uses electricity to move the table up and down to the user's preferred height. The motor for this table uses 320 watts of power during its use and 0.5 watts when not in use (standby power). To estimate the energy use over 10 years, we assumed an average of 2 height adjustments per work day, 261 work days per year, and 30 seconds of motor operation to complete a single height adjustment. The result is approximately 43.5 hours of active operation over the 10-year period, with the remaining time in standby mode. Overall, the table is estimated to consume a total of 57.7 kWh over 10 years. We used sales data to create a weighted average electricity mix to model this electricity consumption (approximately 90% of tables are sold in Canada and 10% in the United States).

TRACI

In the following table, results are reported based on required indicators from The Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI), version 2.1.

Indicator	Unit	A1	A2	A3	A4	A5	B6	C2	C4
Global warming potential	kg CO_2 eq	1.70E+02	1.19E+01	1.06E+02	7.68E+00	8.34E-01	7.78E+00	4.61E-01	5.36E+00
Acidification potential	kg SO_2 eq	1.11E+00	1.04E-01	7.31E-01	6.88E-02	3.44E-04	2.55E-02	6.09E-03	1.37E-02
Smog formation potential	kg O_3 eq	1.25E+01	3.01E+00	1.51E+01	1.75E+00	6.15E-03	2.58E-01	1.56E-01	1.70E-01
Eutrophication potential	kg N eq	1.28E+00	5.86E-03	4.34E-01	6.62E-03	4.85E-03	6.13E-02	3.67E-04	3.98E-01
Ozone depletion potential	kg CFC-11 eq	1.45E-05	4.54E-10	6.84E-06	6.47E-08	1.30E-09	4.67E-07	1.95E-11	8.93E-08

Resource use and waste indicators

The following inventory-based indicators are calculated using the suggested methods in the American Center for Life Cycle Assessment (ACLCA) Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017. The abiotic depletion potential metric uses the ReCiPe 2016 midpoint method.

Indicator	Unit	A1	A2	A3	A4	A5	B6	C2	C4
Renewable primary resources used as energy carrier	MJ, LHV	1.73E+02	0.00E+00	1.98E+02	3.79E+00	1.21E-02	8.68E+01	0.00E+00	1.74E-01
Renewable primary resources with energy content used as material	MJ, LHV	1.14E+03	0.00E+00	8.59E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonrenewable primary resources used as energy carrier	MJ, LHV	2.35E+03	1.53E+02	1.63E+03	1.15E+02	3.04E-01	1.80E+02	6.61E+00	7.00E+00
Nonrenewable primary resources with energy content used as material	MJ, LHV	6.50E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Secondary materials	kg	3.43E+01	0.00E+00	1.03E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable secondary fuels	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonrenewable secondary fuels	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Freshwater consumed	m^3	1.93E+00	0.00E+00	8.82E-01	3.91E-02	2.52E-04	6.62E-01	0.00E+00	2.14E-03
Hazardous waste disposed*	kg	x	x	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonhazardous waste disposed*	kg	0.00E+00	0.00E+00	1.78E-02	0.00E+00	8.41E-01	0.00E+00	0.00E+00	0.00E+00
High-level radioactive waste	kg	4.38E-02	5.93E-06	4.67E-02	5.18E-04	3.94E-06	5.48E-03	3.19E-07	2.64E-04
Intermediate and low-level radioactive waste	kg	4.74E-03	0.00E+00	1.88E-02	6.09E-04	2.32E-07	6.37E-03	0.00E+00	3.43E-06
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling*	kg	x	x	2.20E-01	0.00E+00	1.80E+00	0.00E+00	2.66E+01	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy exported from the product system	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Abiotic depletion potential for fossil resources	kg oil eq.	4.72E+01	3.55E+00	1.33E+01	2.47E+00	6.72E-03	2.07E+00	1.53E-01	1.58E-01

Most datasets for upstream materials do not quantify these metrics and thus results may be incomplete. Use caution when interpreting data in these categories.

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Carbon dioxide removals and emissions

The following inventory-based indicators of carbon dioxide removals and emissions are calculated using the suggested methods in the American Center for Life Cycle Assessment (ACLCA) Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017.

Indicator	Unit	A1	A2	A3	A4	A5	B6	C2	C4
Biogenic carbon removals (Product)	kg CO_2	-1.21E+02	0.00E+00	-3.64E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon emissions (Product)	kg CO_2	0.00E+00	0.00E+00	3.70E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.55E+01
Biogenic carbon removals (Packaging)	kg CO_2	0.00E+00	0.00E+00	-4.82E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon emissions (Packaging)	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon emissions (Waste combustion)	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon emissions from calcination	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon removals from carbonation	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon emissions from combustion of waste from non-renewable sources used in production	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Results from individual end-of-life pathways

To assist customers in understand how the environmental impact potentials could change based on different end-of-life pathways, the following table presents the total life cycle impact assessment results of the baseline end-of-life scenario as well as 100% recycling, 100% landfill, and 100% incineration (without energy recovery) of the product at its end of life. Not surprisingly, 100% recycling has the lowest impacts and 100% incineration has the highest impacts, except for eutrophication, for which 100% landfill has the most impacts due to leachate in the landfill data set. The impact categories with the most variability are global warming and eutrophication.

Indicator	Unit	Baseline	100% recycled	100% landfilled	100% incinerated
TRACI					
Global warming potential	kg CO_2 eq	3.10E+02	3.05E+02	3.12E+02	3.36E+02
Acidification potential	kg SO_2 eq	2.06E+00	2.04E+00	2.05E+00	2.10E+00
Smog formation potential	kg O_3 eq	3.29E+01	3.28E+01	3.29E+01	3.32E+01
Eutrophication potential	kg N eq	2.19E+00	1.79E+00	2.38E+00	1.82E+00
Ozone depletion potential	kg CFC-11 eq	2.20E-05	2.19E-05	2.20E-05	2.20E-05

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