

# Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## SECTIONAL DOOR 601

from

**LOADING SYSTEMS INTERNATIONAL BV**



Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
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*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](http://www.environdec.com)*



## General information

### Programme information

<b>Programme:</b>	The International EPD® System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

### Accountabilities for PCR, LCA and independent, third-party verification

#### Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): *PCR 2019:14 Construction products (version 1.3.2)*

PCR review was conducted by: The Technical Committee of the International EPD® System. Chair of the PCR review is Martin Erlandsson. The review panel may be contacted via [info@environdec.com](mailto:info@environdec.com).

#### Life Cycle Assessment (LCA)

LCA accountability: LCA Studio s.r.o.  
prof. Ing. Vladimír Kočí, Ph.D., MBA, Ing. Eliška Purkarová, Ph.D.  
Šárecká 1962/5, 16000 Prague 6, Czech Republic [www.lcastudio.cz](http://www.lcastudio.cz)



#### Third-party verification

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

EPD verification by individual verifier

Third-party verifier: prof. Ing. Silvia Vilčeková, PhD., Silcert, s.r.o.

Approved 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 registered in different EPD programmes, or not compliant with EN 15804, 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 EN 15804 and ISO 14025.

## Company information

Owner of the EPD: LOADING SYSTEMS INTERNATIONAL BV

Contact: e-mail: [info@loading-systems.com](mailto:info@loading-systems.com), tel.: +31 320 225 200

Description of the organisation:

Loading Systems has been active in the field of loading and unloading for more than 50 years. In their own factories, they manufacture well thought-out loading and unloading solutions. Efficient and automated, but also customized for their customers.

In the market for loading and unloading, Loading Systems distinguishes itself through continuity, flexibility and involvement. This "DNA" is in the company, in all employees from production employee to the CEO. With offices throughout Europe and beyond, Loading Systems is a multinational company with a global market presence.

The company's product range includes customized industrial doors as well as a wide range of docking-related equipment. One of the company's specialisms is the supply and installation of equipment for logistics centers.

With Loading Systems sectional doors, quality and safety come first. They are designed by experienced experts and manufactured from quality materials and components from the most renowned European manufacturers. The entire process is continuously monitored to ensure maximum customer satisfaction in all its requirements.

Loading Systems doors comply with European standards for door technology and are tested according to the harmonized standard EN 13241.

Feedback from customers is equally important to the company's operations, where products and services are constantly improved to best meet end-user needs and requirements.

Product-related or management system-related certifications: EN 13241–2003+A2–2016 – Industrial, commercial and garage doors.

Location of production site(s): Turkova 1338, Nový Bydžov, 50401

## Product information

Product name: SECTIONAL DOOR 601

Product identification: Industrial, commercial and garage doors, products without fire resistance or smoke control characteristics

Product description:

Industrial sectional doors 601 are intended for installation in areas in the reach of persons, and for which the main intended use is giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

The door construction consists of sections produced from PUR sandwich panels, which are connected to each other by middle and side hinges ensuring the bending of the door leaf when passing through the rail curve. The roller holder with rollers is fixed on the side hinges to ensure the guidance of the door leaf in the rails during opening and closing. The construction of the rail system is made of galvanized steel profiles, installed as a whole on the vertical wall on both inner sides of the building opening and ensure correct movement of the door leaf into the space above the entrance area. When the door leaf is completely closed, it is sealed by a sealing system located on the vertical rail system and on the leaf itself. It is equipped with an electric operator located directly on the steel shaft above the opening, mounted in bearing consoles, together with torsion balancing springs and two drums for winding the carrying cable on which the door leaf is hooked via the bottom bracket and ensures its opening and closing.

The door is equipped with additional safety components (mechanical, electronic) so that the complete system fully complies with European standard EN 13241 - Doors - Product standard, Products without fire and smoke resistance.

The door is also equipped with a passage door, which reduces the frequency of opening the entire door and simplifies the passage of individual persons.

UN CPC code: 42120 Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium

Geographical scope: Europe, Global

## LCA information

Functional unit / declared unit: 1 m<sup>2</sup>

Reference service life: 20 years (assuming and average service life)

Time representativeness: Site specific data from producer are based on 1 year average for process data (reference year 2021). Time scope less than 10-years were applied for background data. Time scope less than 2-years were applied for specific data

Database(s) and LCA software used: LCA for Experts (former Gabi), LCA for Experts database and EcoInvent database

Description of system boundaries:

The system boundary is Cradle to gate with modules A4, C1–C4 and module D according to EN 15804 +A2. It covers the production of raw materials, all relevant transport down to factory gate, manufacturing of industrial doors, transport from production site to warehouse and to customers, transport of deconstructed materials, waste processing and disposal and recycling of used industrial doors. The review framework comprises the following details:

- Raw materials acquisition and transport,
- Further processing of raw materials,
- Production operations,
- Energy and water consumption,
- Waste management,
- Packaging of the final product for delivery,
- Transport and waste processing,
- Waste incineration with energy recovery, production of recyclable materials and waste disposal.

System diagram:

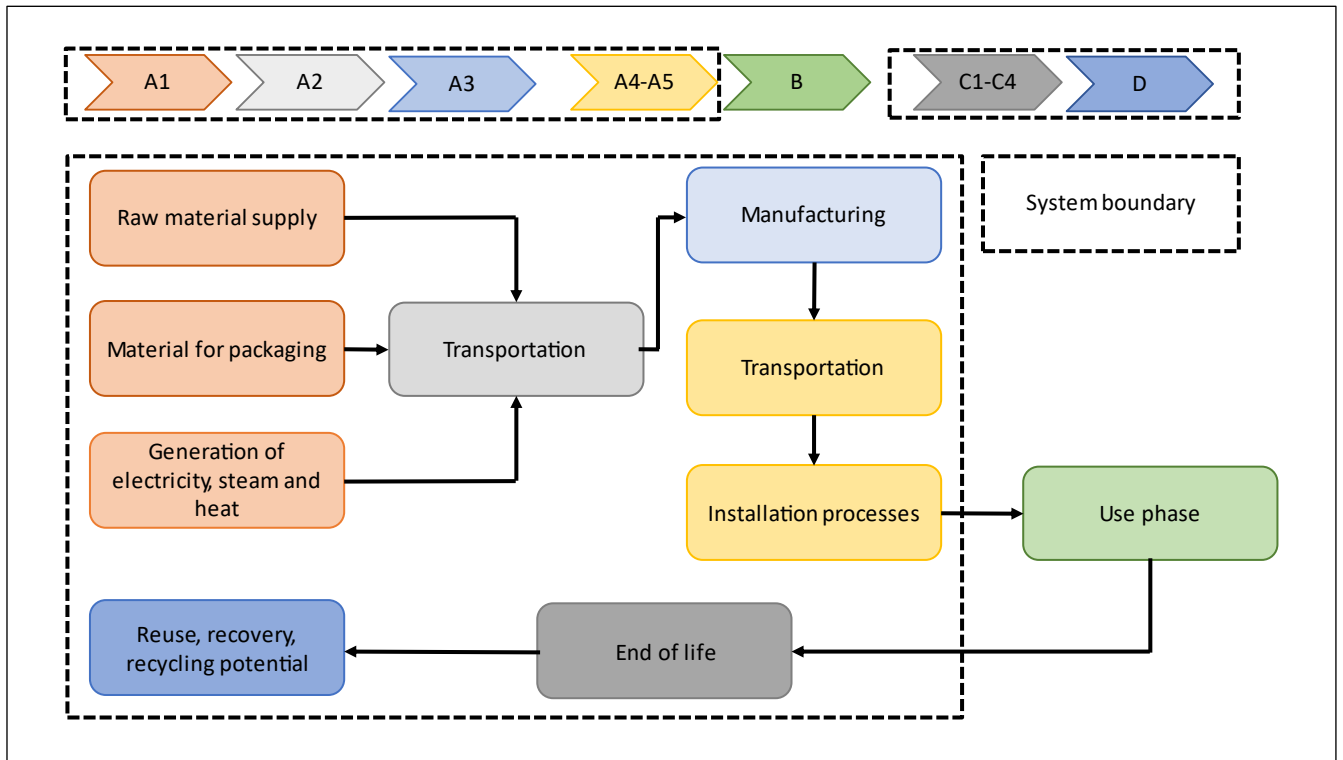


Figure 1 System boundary of the LCA study conducted on Loading Systems sectional doors

More information: More information can be found on the website <https://www.loading-systems.com>.

Cut off rules: The cut-off criterion was chosen based on the used PCR. According to the used PCR, more than 95 % of flows were included.

Allocations: As a general allocation rule the production of 1 m<sup>2</sup> of product was chosen. Common inputs (electricity, natural gas), material inputs, transport and common outputs (waste generated, emissions) are allocated to this product, i.e. to declared unit of this product.

Electricity mix: Sphera DB process of Czech residual grid mix is used for production process in LOADING SYSTEMS INTERNATIONAL BV. The used dataset has impact of 0,55 kg CO<sub>2</sub> eq./kWh for GWP-GHG indicator.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO	CZE	GLO	GLO	NR	NR	NR	NR	NR	NR	NR	GLO	GLO	GLO	GLO	GLO
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	NR					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	NR					-	-	-	-	-	-	-	-	-	-	-	-

## Content information

Content information of 1m<sup>2</sup> of Loading Systems sectional door 601.

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Steel	22,982	20,300	0
Aluminium	3,081	0	0
Copper	0,188	0	0
UV SAN	0,240	0	0
PUR Foam	2,108	0	0
Nylon	0,018	0	0
Rubber	0,047	0	0
EPDM	0,079	0	0
TPE	0,218	0	0
PVC	0,135	0	0
PVC (hard)	0,093	0	0
PP	0,060	0	0
PE	0,012	0	0
ABS	0,431	0	0
Paper	0,002	100	51,313 and 2,799E-04
TOTAL	29,694	15,718	0,003 and 9,426E-06
Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Wood	4,636	15,610	1,667
Cardboard	1,265	4,260	0,187
PE	0,072	0,240	0
TOTAL	5,973	20,120	0,310

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
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No substances from the SVHC list to report.

## Results of the environmental performance indicators

### Mandatory impact category indicators according to EN 15804

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	9,67E+01	1,83E+00	4,15E-02	0,00E+00	2,43E-01	8,34E+00	7,09E-02	-3,80E+01
GWP-biogenic	kg CO <sub>2</sub> eq.	4,20E-02	-2,70E-02	1,75E+00	0,00E+00	-3,40E-03	1,05E-03	-8,15E-04	1,49E-02
GWP-luluc	kg CO <sub>2</sub> eq.	5,34E-02	1,69E-02	9,97E-06	0,00E+00	2,23E-03	6,69E-05	6,97E-05	-9,32E-03
GWP-total	kg CO <sub>2</sub> eq.	9,68E+01	1,82E+00	1,80E+00	0,00E+00	2,42E-01	8,34E+00	7,02E-02	-3,80E+01
ODP	kg CFC 11 eq.	4,54E-09	1,60E-13	2,20E-13	0,00E+00	2,10E-14	3,81E-12	1,13E-13	-5,37E-11
AP	mol H <sup>+</sup> eq.	2,81E-01	2,48E-03	4,95E-04	0,00E+00	3,26E-04	2,90E-03	2,20E-04	-1,20E-01
EP-freshwater	kg P eq.	1,51E-04	6,66E-06	6,89E-08	0,00E+00	8,76E-07	4,36E-07	6,21E-08	-1,51E-05
EP-marine	kg N eq.	5,59E-02	8,93E-04	1,80E-04	0,00E+00	1,17E-04	8,78E-04	5,53E-05	-2,28E-02
EP-terrestrial	mol N eq.	6,03E-01	1,06E-02	2,25E-03	0,00E+00	1,40E-03	1,28E-02	6,07E-04	-2,47E-01
POCP	kg NMVOC eq.	2,30E-01	2,16E-03	4,78E-04	0,00E+00	2,84E-04	2,33E-03	1,73E-04	-6,91E-02
ADP-minerals&metals*	kg Sb eq.	6,16E-04	1,19E-07	2,00E-09	0,00E+00	1,55E-08	4,46E-08	1,88E-09	-4,91E-04
ADP-fossil*	MJ	1,20E+03	2,48E+01	5,67E-01	0,00E+00	3,27E+00	1,05E+01	1,03E+00	-4,95E+02
WDP*	m <sup>3</sup>	6,08E+00	2,10E-02	2,23E-01	0,00E+00	2,77E-03	8,33E-01	-9,32E-04	-2,20E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

**\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.**



## Additional mandatory and voluntary impact category indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	9,68E+01	1,84E+00	4,15E-02	0,00E+00	2,43E-01	8,34E+00	7,10E-02	-3,80E+01
Particulate matter	Disease incidences	3,35E-06	1,95E-08	2,71E-09	0,00E+00	2,58E-09	1,77E-08	2,37E-09	-1,30E-06
Ionising radiation, human health	kBq U235 eq.	5,86E+00	4,64E-03	4,77E-03	0,00E+00	6,11E-04	1,67E-01	1,76E-03	-7,57E+00
Ecotoxicity, freshwater	CTUe	4,27E+02	1,75E+01	2,37E-01	0,00E+00	2,28E+00	2,91E+00	2,91E-01	-1,62E+02
Human toxicity, cancer	CTUh	8,93E-08	3,52E-10	1,48E-11	0,00E+00	4,64E-11	1,33E-10	3,61E-11	-2,43E-08
Human toxicity, non-cancer	CTUh	1,65E-06	1,56E-08	3,64E-10	0,00E+00	2,46E-09	7,81E-09	3,60E-09	-3,17E-07
Land Use	Pt	1,26E+02	1,04E+01	1,65E-01	0,00E+00	1,36E+00	1,22E+00	9,58E-02	-3,15E+01

## Resource use indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2,52E+02	1,76E+00	1,37E-01	0,00E+00	2,31E-01	1,33E+00	9,21E-02	-1,11E+02
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,52E+02	1,76E+00	1,37E-01	0,00E+00	2,31E-01	1,33E+00	9,21E-02	-1,11E+02
PENRE	MJ	1,21E+03	2,49E+01	5,67E-01	0,00E+00	3,28E+00	1,05E+01	1,03E+00	-4,97E+02
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,21E+03	2,49E+01	5,67E-01	0,00E+00	3,28E+00	1,05E+01	1,03E+00	-4,97E+02
SM	kg	4,67E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

<sup>1</sup> This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	5,43E-01	1,94E-03	5,24E-03	0,00E+00	2,55E-04	2,05E-02	1,16E-05	-2,41E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

## Waste indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,82E-04	9,21E-11	1,79E-11	0,00E+00	1,21E-11	9,66E-10	8,47E-11	-2,05E-08
Non-hazardous waste disposed	kg	1,13E+01	3,59E-03	5,65E-02	0,00E+00	4,72E-04	1,71E-01	1,47E+00	-4,94E+00
Radioactive waste disposed	kg	3,64E-02	3,22E-05	3,01E-05	0,00E+00	4,23E-06	1,19E-03	1,19E-05	-3,97E-02

## Output flow indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	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
Material for recycling	kg	2,69E+00	0,00E+00	4,71E+00	0,00E+00	0,00E+00	26,33E+00	0,00E+00	-24,86E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	1,27E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-42,40E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,68E+00

## Additional environmental information

During production, hygiene regulations are observed to the maximum, protective equipment is used, but above all, the production areas are designed so that they do not present a stressful environment for the workers in any way. Waste materials and scrap are strictly sorted and, as far as possible, passed on to specialist companies for further processing.

Loading Systems sectional doors are made only from quality materials from renowned European manufacturers, which guarantee a long service life and low maintenance costs.

During use, the door does not produce any substances harmful to humans or in any way pollutes its surroundings (water, air).

Proper maintenance and adjustment of the product according to the detailed instructions in the service booklet (regular inspections by a trained and qualified person is recommended, a minimum of one visit per year) can significantly extend the life of particularly wearable components such as seals, or by replacing them to ensure durable properties and reduce the consumption of electricity used for heating or cooling the enclosed space.

The reduction in energy consumption can also be achieved by increased automation, by shortening the opening and closing interval of the door (by limiting the time for the escape of heated or cooled air during the opening cycle) and by only partially opening the door depending on the height of the passing vehicle.

The company also puts maximum emphasis on training its customers / distributors so that it can continuously pass its deep experience in the field of closing technology and continuously bring to the market innovations that increase the safety of the product, user-friendliness and reduce the negative impact on the environment!

### Conversion factor

If it is necessary to calculate the results to mass in kg, conversion factor is 29,66. This means that the results in the results tables need to be divided by this number.

## Additional social and economic information

The company creates a friendly working environment where teamwork is the key feature. Employee responsibility and initiative are encouraged intensively, and the interest in continuous improvement is considered the most important part of each individual's professional self-fulfilment.

The correct balance between work and leisure activities are equally important and are actively encouraged in the form of social events, cultural and sporting activities, leading to mutual understanding and work-life balance.

An important area of our daily activity is the respect for the environment in which all employees work and live.

In addition to our employees, quality, long-lasting and fair relationships with our suppliers - an integral part of the supply chain - are also very crucial for the company.

At the top of the pyramid, there are the customers, whose satisfaction is the main goal of the company. Their needs are constantly monitored, and solutions are found in coordination with the product department to support them in a highly competitive market.

## References

General Programme Instructions of the International EPD® System. Version 4.0.

Product Category Rules (PCR) document for Construction Products (PCR 2019:14 Version 1.3.2, 2023-12-08)

ISO 14020:2000 Environmental labels and declarations — General principles, 2000-09

ISO 14025: EN ISO 14025:2006-11: Environmental labels and declarations - Type III environmental declarations — Principles and procedures

ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework, 2006-07

ISO 14044:2006 Environmental management — Life cycle assessment — Requirements and guidelines, 2006-07

EN 15804+A2:2019 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products, 2019

Ecoinvent: Ecoinvent Centre, [www.Eco-invent.org](http://www.Eco-invent.org)

Sphera: LCA for Experts software, 2023, Sphera solutions.

