

# Environmental product declaration

In accordance with ISO 14025 and EN 15804 +A2

Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock, Benders Sweden

**Owner of the declaration:**

Leca International

**Declared unit:**

1 m<sup>3</sup> Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock, Benders Sweden

**This declaration is based on Product Category Rules:**

CEN Standard EN 15804:2012+A2:2019 serves as core PCR  
NPCR Part A: Construction products and services. Ver. 1.0.  
March 2021

**Program operator:**

The Norwegian EPD Foundation

**Declaration number:**

NEPD-3827-2781-EN

**Registration number:**

NEPD-3827-2781-EN

**Issue date:** 14.10.2022

**Valid to:** 14.10.2027

**EPD Software:**

LCA.no EPD generator

**System ID:**

50797

## General information

### Product

Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock, Benders Sweden

### Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway  
The Norwegian EPD Foundation  
Phone: +47 23 08 80 00  
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### Declaration number:

NEPD-3827-2781-EN

### This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR  
NPCR Part A: Construction products and services. Ver. 1.0. March 2021

### Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

### Declared unit:

1 m3 Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock,

### Declared unit with option:

A1,A2,A3,A4,C1,C2,C3,C4,D  
Benders Sweden

### Functional Unit

### General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

### Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Anne Rønning, Norsus AS  
(no signature required)

### Owner of the declaration:

Leca International  
Contact person: Tone Storbråten  
Phone: +47 41 43 71 00  
e-mail: info@leca.no

### Manufacturer:

Benders Sverige AB  
Fridhem Stadsfjället 306, 451 93 Uddevalla  
Sweden

### Place of production:

Benders Sverige AB  
Fridhem Stadsfjället 306, 451 93 Uddevalla  
Sweden

### Management system:

ISO 14001/ISO 9001

### Organisation no:

918 799 141

### Issue date:

14.10.2022

### Valid to:

14.10.2027

### Year of study:

2021

### Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

### Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway.

Developer of EPD:

Ana Raquel Fernandes

Reviewer of company-specific input data and EPD:

Tone Storbråten

### Approved:



Håkon Hauan, CEO EPD-Norge

## Product

### Product description:

Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock, are produced of Leca® lightweight aggregate, cement, sand and water. Leca® block is a fast and efficient solution for loadbearing and non-bearing walls.

### Product specification

| Materials                     |       |
|-------------------------------|-------|
| Leca® LWA, % volume by volume | 70-90 |
| Binder, % weight by weight    | 10-20 |
| Sand, % weight by weight      | 20-40 |
| Wooden pallet, unit per DU    | 1     |
| Wrap film, kg per DU          | 0,1   |

### Technical data:

Leca® Murblock 7 cm, 9 cm, 12 cm, 15 cm, 19 cm, 25 cm and 30 cm  
Block: 587 mm x 68-298 mm x 190 mm

Leca® Sulblock 25 cm  
Block: 250 mm x 587 mm x 190 mm

Leca® Block 9 cm, 15 cm, 20 cm, 25 cm, 30 cm and 35 cm  
Block: 498 mm x 88-348 mm x 198 mm

Leca® Balkblock 30 cm and 35 cm  
Block: 248 mm x 298-348 mm x 190 mm

Compressive strength:  
Block: 3,0 Mpa  
Block density: 650 kg/m<sup>3</sup>

### Market:

Sweden

### Reference service life, product

>50 years

### Reference service life, building or construction works

## LCA: Calculation rules

### Declared unit:

1 m<sup>3</sup> Leca® Murblock, Leca® Sulblock, Leca® Block and Leca® Balkblock, Benders Sweden

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

### Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

### Data quality:

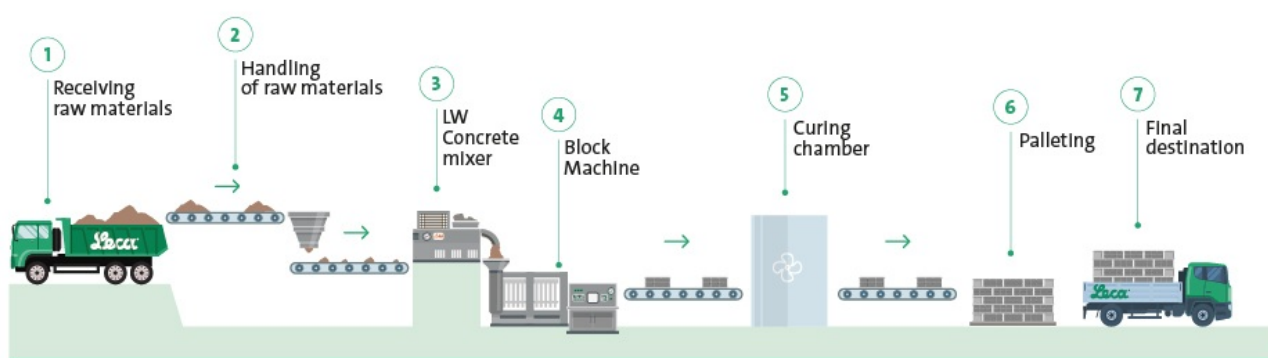
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

| Materials                   | Source                   | Data quality | Year |
|-----------------------------|--------------------------|--------------|------|
| Aggregate                   | ecoinvent 3.6            | Database     | 2019 |
| Packaging                   | ecoinvent 3.6            | Database     | 2019 |
| Water                       | ecoinvent 3.6            | Database     | 2019 |
| Cement                      | EPD-HCG-20210157-CAA1-EN | EPD          | 2021 |
| Lightweight Aggregate (LWA) | Leca                     | EPD          | 2022 |

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

| Product stage |           |               | Construction installation stage | Use stage |     |             |        |             |               |                        |                       | End of life stage          |           |                  |          | Beyond the system boundaries       |
|---------------|-----------|---------------|---------------------------------|-----------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
| Raw materials | Transport | Manufacturing | Transport                       | Assembly  | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| A1            | A2        | A3            | A4                              | A5        | B1  | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                  |
| X             | X         | X             | X                               | MND       | MND | MND         | MND    | MND         | MND           | MND                    | MND                   | X                          | X         | X                | X        | X                                  |

System boundary:



Additional technical information:

## LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

| Transport from production place to user (A4)              | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit  | Value (Liter/tonn) |
|-----------------------------------------------------------|---------------------------------------|---------------|-------------------------|-------|--------------------|
| Truck, 16-32 tonnes, EURO 5 (km)                          | 36,7 %                                | 100           | 0,044                   | l/tkm | 4,40               |
| End of Life (C1, C3, C4)                                  |                                       |               |                         |       |                    |
| Unit                                                      | Value                                 |               |                         |       |                    |
| Demolition of building per kg of LWA block (kg)           | kg/DU                                 | 650,00        |                         |       |                    |
| Transport to waste processing (C2)                        | Capacity utilisation (incl. return) % | Distance (km) | Fuel/Energy Consumption | Unit  | Value (Liter/tonn) |
| Truck, 16-32 tonnes, EURO 5 (km)                          | 36,7 %                                | 50            | 0,044                   | l/tkm | 2,20               |
| Waste processing (C3)                                     |                                       |               |                         |       |                    |
| Unit                                                      | Value                                 |               |                         |       |                    |
| Waste treatment per kg of LWA block after demolition (kg) | kg                                    | 487,50        |                         |       |                    |
| Disposal (C4)                                             |                                       |               |                         |       |                    |
| Unit                                                      | Value                                 |               |                         |       |                    |
| Disposal, landfilling of waste LWA (kg)                   | kg                                    | 162,50        |                         |       |                    |
| Benefits and loads beyond the system boundaries (D)       |                                       |               |                         |       |                    |
| Unit                                                      | Value                                 |               |                         |       |                    |
| Substitution of primary aggregates (kg)                   | kg                                    | 487,50        |                         |       |                    |

## LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

| Environmental impact             |                        |           |          |          |          |          |          |          |          |           |  |
|----------------------------------|------------------------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|--|
| Parameter                        | Unit                   | A1        | A2       | A3       | A4       | C1       | C2       | C3       | C4       | D         |  |
| GWP-total                        | kg CO <sub>2</sub> -eq | 1,49E+02  | 8,31E+00 | 1,92E+00 | 1,08E+01 | 2,60E+00 | 5,42E+00 | 3,51E-01 | 1,33E+00 | -1,14E+00 |  |
| GWP-fossil                       | kg CO <sub>2</sub> -eq | 1,50E+02  | 8,31E+00 | 1,83E+00 | 1,08E+01 | 2,60E+00 | 5,42E+00 | 3,46E-01 | 1,33E+00 | -1,12E+00 |  |
| GWP-biogenic                     | kg CO <sub>2</sub> -eq | -5,38E-01 | 3,81E-03 | 3,51E-02 | 4,42E-03 | 4,88E-04 | 2,21E-03 | 2,99E-03 | 1,56E-03 | -2,23E-02 |  |
| GWP-luluc                        | kg CO <sub>2</sub> -eq | 2,77E-02  | 2,53E-03 | 5,42E-02 | 3,79E-03 | 2,05E-04 | 1,89E-03 | 4,79E-04 | 3,28E-04 | -7,55E-04 |  |
| ODP                              | kg CFC11 -eq           | 2,14E-06  | 2,00E-06 | 6,05E-07 | 2,47E-06 | 5,62E-07 | 1,24E-06 | 6,83E-08 | 5,05E-07 | -2,03E-07 |  |
| AP                               | mol H <sup>+</sup> -eq | 4,03E-01  | 2,67E-02 | 1,49E-02 | 4,43E-02 | 2,72E-02 | 2,21E-02 | 2,80E-03 | 1,19E-02 | -1,00E-02 |  |
| EP-FreshWater                    | kg P -eq               | 9,94E-03  | 6,61E-05 | 6,06E-05 | 8,51E-05 | 9,47E-06 | 4,25E-05 | 2,19E-05 | 1,51E-05 | -2,97E-05 |  |
| EP-Marine                        | kg N -eq               | 1,10E-01  | 5,86E-03 | 5,12E-03 | 1,31E-02 | 1,20E-02 | 6,57E-03 | 8,21E-04 | 4,41E-03 | -3,48E-03 |  |
| EP-Terrestrial                   | mol N eq               | 1,73E+00  | 6,53E-02 | 5,78E-02 | 1,45E-01 | 1,30E-01 | 7,26E-02 | 9,46E-03 | 4,86E-02 | -4,09E-02 |  |
| POCP                             | kg NMVOC -eq           | 4,47E-01  | 2,57E-02 | 1,53E-02 | 4,45E-02 | 3,62E-02 | 2,22E-02 | 2,53E-03 | 1,39E-02 | -1,08E-02 |  |
| ADP-minerals&metals <sup>1</sup> | Kg Sb-eq               | 1,18E-04  | 1,48E-04 | 3,52E-05 | 2,93E-04 | 3,99E-06 | 1,47E-04 | 4,39E-06 | 1,20E-05 | -9,91E-05 |  |
| ADP-fossil <sup>1</sup>          | MJ                     | 6,59E+02  | 1,35E+02 | 1,10E+02 | 1,63E+02 | 3,58E+01 | 8,17E+01 | 1,07E+01 | 3,67E+01 | -1,89E+01 |  |
| WDP <sup>1</sup>                 | m <sup>3</sup>         | 1,45E+03  | 1,03E+02 | 9,91E+03 | 1,56E+02 | 7,61E+00 | 7,79E+01 | 1,19E+03 | 2,26E+02 | -8,85E+02 |  |

GWP total Global Warming Potential total; GWP fossil Global Warming Potential fossil fuels ; GWP biogenic Global Warming Potential biogenic; GWP luluc Global W Potential land use change; ODP Ozone Depletion; AP Acidification; EP freshwater Eutrophication aquatic freshwater; EP marine Eutrophication aquatic marine; EP terrestrial Eutrophication terrestrial ;POCP Photochemical zone formation; ADPE Abiotic Depletion Potential minerals and metals; ADPf Abiotic Depletion Potential fossil fuels;

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

1. 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

3. Eutrophication aquatic freshwater shall be in kg P-eq., there is a typo in EN 15804:2012+A2:2019 regarding this unit. Eutrophication calculated as PO4-eq is presented on page 11

## Remarks to environmental impacts

## Additional environmental impact indicators

| Parameter                                                                         |                     | Unit              | A1       | A2       | A3       | A4       | C1       | C2       | C3       | C4       | D         |
|-----------------------------------------------------------------------------------|---------------------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|  | PM                  | Disease incidence | 3,36E-06 | 7,54E-07 | 2,87E-07 | 7,80E-07 | 3,29E-06 | 3,90E-07 | 4,49E-08 | 2,53E-07 | -2,14E-07 |
|  | IRP <sup>2</sup>    | kgBq U235 eq.     | 5,81E+03 | 5,90E-01 | 3,40E+00 | 7,14E-01 | 1,56E-01 | 3,57E-01 | 1,80E-01 | 1,67E-01 | -1,73E-01 |
|  | ETP-fw <sup>1</sup> | CTUe              | 7,43E+02 | 9,86E+01 | 5,90E+01 | 1,20E+02 | 1,96E+01 | 6,02E+01 | 7,62E+00 | 2,00E+01 | -1,94E+01 |
|  | HTP-c <sup>1</sup>  | CTUh              | 1,47E-07 | 0,00E+00 | 1,80E-09 | 0,00E+00 | 6,50E-10 | 0,00E+00 | 4,88E-10 | 8,13E-10 | -9,75E-10 |
|  | HTP-nc <sup>1</sup> | CTUh              | 1,28E-06 | 9,54E-08 | 4,35E-08 | 1,30E-07 | 1,82E-08 | 6,50E-08 | 6,83E-09 | 1,45E-08 | -2,39E-08 |
|  | SQP <sup>1</sup>    | Pt                | 3,01E+02 | 1,55E+02 | 4,50E+01 | 1,13E+02 | 4,35E+00 | 5,63E+01 | 6,08E+00 | 1,41E+02 | 4,29E+01  |

PM Particulate Matter emissions; IRP Ionizing radiation – human health; ETP-fw Eco toxicity – freshwater; HTP-c Human toxicity – cancer effects; HTP-nc Human toxicity – non cancer effects; SQP Soil Quality (dimensionless)

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed

1. 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
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

| Resource use |       |                |          |          |          |          |           |          |           |          |           |
|--------------|-------|----------------|----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|
| Parameter    |       | Unit           | A1       | A2       | A3       | A4       | C1        | C2       | C3        | C4       | D         |
|              | PERE  | MJ             | 1,01E+02 | 1,70E+00 | 4,70E+01 | 2,31E+00 | 1,95E-01  | 1,15E+00 | 5,53E+00  | 1,31E+00 | -4,42E+00 |
|              | PERM  | MJ             | 2,75E+01 | 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             | 1,29E+02 | 1,70E+00 | 4,70E+01 | 2,31E+00 | 1,95E-01  | 1,15E+00 | 5,53E+00  | 1,31E+00 | -4,42E+00 |
|              | PENRE | MJ             | 7,56E+02 | 1,35E+02 | 1,10E+02 | 1,63E+02 | 3,58E+01  | 8,17E+01 | 1,08E+01  | 3,67E+01 | -1,99E+01 |
|              | PENRM | MJ             | 4,25E+00 | 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             | 7,60E+02 | 1,35E+02 | 1,10E+02 | 1,63E+02 | 3,58E+01  | 8,17E+01 | 1,08E+01  | 3,67E+01 | -1,99E+01 |
|              | SM    | kg             | 2,23E+01 | 4,35E-03 | 7,78E-03 | 0,00E+00 | 1,76E-02  | 0,00E+00 | 9,24E-03  | 1,59E-02 | -3,82E-02 |
|              | RSF   | MJ             | 8,94E+01 | 5,94E-02 | 1,85E-01 | 8,25E-02 | 4,76E-03  | 4,13E-02 | 1,12E-01  | 2,73E-02 | -9,04E-02 |
|              | NRSF  | MJ             | 6,18E+02 | 1,99E-01 | 6,01E-01 | 2,95E-01 | -7,15E-02 | 1,47E-01 | -6,95E-03 | 5,88E-02 | -9,29E-02 |
|              | FW    | m <sup>3</sup> | 7,07E-01 | 1,54E-02 | 1,27E-01 | 1,72E-02 | 1,84E-03  | 8,60E-03 | 1,84E-02  | 4,51E-02 | -6,94E-01 |

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 materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; FW Use of net fresh water

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed



| End of life - Waste |      |      |          |          |          |          |          |          |          |          |           |
|---------------------|------|------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Parameter           |      | Unit | A1       | A2       | A3       | A4       | C1       | C2       | C3       | C4       | D         |
|                     | HWD  | kg   | 5,01E-02 | 7,38E-03 | 4,47E-02 | 8,33E-03 | 1,05E-03 | 4,17E-03 | 1,07E-03 | 2,58E-03 | -4,55E-03 |
|                     | NHWD | kg   | 5,78E+02 | 1,17E+01 | 3,81E-01 | 7,81E+00 | 4,24E-02 | 3,90E+00 | 3,39E-02 | 1,63E+02 | -1,38E-01 |
|                     | RWD  | kg   | 6,25E-04 | 9,21E-04 | 1,56E-03 | 1,11E-03 | 2,49E-04 | 5,57E-04 | 1,14E-04 | 2,39E-04 | -1,50E-04 |

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed;

"Reading example: 9,0 E-03 =  $9,0 \cdot 10^{-3}$  = 0,009"

\*INA Indicator Not Assessed

| End of life - Output flow |     |      |          |          |          |          |          |          |          |          |           |
|---------------------------|-----|------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Parameter                 |     | Unit | A1       | A2       | A3       | A4       | C1       | C2       | C3       | C4       | D         |
|                           | CRU | 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 | 0,00E+00  |
|                           | MFR | kg   | 5,89E-02 | 6,11E-05 | 3,16E-01 | 0,00E+00 | 1,73E-02 | 0,00E+00 | 4,88E+02 | 1,45E-02 | -8,94E-04 |
|                           | MER | kg   | 6,04E-01 | 3,77E-03 | 5,91E-03 | 0,00E+00 | 5,35E-05 | 0,00E+00 | 1,12E-03 | 2,73E-04 | -3,34E-02 |
|                           | EEE | MJ   | 4,02E-02 | 6,57E-04 | 1,93E-01 | 0,00E+00 | 1,83E-04 | 0,00E+00 | 1,92E-03 | 2,25E-02 | -8,07E-03 |
|                           | EET | MJ   | 6,08E-01 | 9,99E-03 | 2,92E+00 | 0,00E+00 | 2,78E-03 | 0,00E+00 | 2,91E-02 | 3,41E-01 | -1,22E-01 |

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported energy Thermal

"Reading example: 9,0 E-03 =  $9,0 \cdot 10^{-3}$  = 0,009"

\*INA Indicator Not Assessed

| Biogenic Carbon Content                           |      |                     |
|---------------------------------------------------|------|---------------------|
| Parameter                                         | Unit | At the factory gate |
| Biogenic carbon content in product                | kg C | 0,00E+00            |
| Biogenic carbon content in accompanying packaging | kg C | 8,19E-01            |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>

## Additional Norwegian requirements

### Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Electricity mix           | Data source   | Amount | Unit                      |
|---------------------------|---------------|--------|---------------------------|
| Electricity, Sweden (kWh) | ecoinvent 3.6 | 54,94  | g CO <sub>2</sub> -eq/kWh |

### Dangerous substances

The product contains no substances given by the REACH Candidate list or the Norwegian priority list.

### Indoor environment

## Additional Environmental Information

| Environmental impact indicators EN 15804+A1 and NPCR Part A v2.0 |                                      |          |          |          |          |          |          |          |          |           |
|------------------------------------------------------------------|--------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Parameter                                                        | Unit                                 | A1       | A2       | A3       | A4       | C1       | C2       | C3       | C4       | D         |
| GWP                                                              | kg CO <sub>2</sub> -eq               | 1,64E+02 | 8,23E+00 | 1,83E+00 | 1,07E+01 | 2,57E+00 | 5,36E+00 | 3,41E-01 | 1,31E+00 | -1,19E+00 |
| ODP                                                              | kg CFC11 -eq                         | 2,77E-06 | 1,62E-06 | 8,75E-07 | 1,95E-06 | 4,46E-07 | 9,75E-07 | 8,43E-08 | 4,06E-07 | -1,85E-07 |
| POCP                                                             | kg C <sub>2</sub> H <sub>4</sub> -eq | 4,98E-02 | 1,02E-03 | 3,49E-04 | 1,43E-03 | 3,96E-04 | 7,16E-04 | 7,59E-05 | 3,07E-04 | -2,49E-04 |
| AP                                                               | kg SO <sub>2</sub> -eq               | 2,54E-01 | 1,73E-02 | 5,47E-03 | 2,13E-02 | 3,80E-03 | 1,06E-02 | 1,28E-03 | 3,63E-03 | -2,92E-03 |
| EP                                                               | kg PO <sub>4</sub> <sup>3-</sup> -eq | 7,76E-02 | 1,88E-03 | 8,06E-04 | 2,27E-03 | 4,22E-04 | 1,14E-03 | 1,70E-04 | 4,28E-04 | -3,42E-04 |
| ADPM                                                             | kg Sb -eq                            | 1,12E-04 | 1,48E-04 | 3,51E-05 | 2,93E-04 | 3,99E-06 | 1,47E-04 | 4,39E-06 | 1,20E-05 | -9,91E-05 |
| ADPE                                                             | MJ                                   | 6,76E+02 | 1,33E+02 | 1,87E+01 | 1,60E+02 | 3,56E+01 | 8,00E+01 | 4,13E+00 | 3,52E+01 | -1,89E+01 |
| GWPIOBC                                                          | kg CO <sub>2</sub> -eq               | 1,15E+02 | 8,31E+00 | 1,75E+00 | 1,08E+01 | 3,49E+03 | 5,42E+00 | 0,00E+00 | 0,00E+00 | -1,19E+00 |

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources; GWP-IOBC/GHG Global warming potential calculated according to the principle of instantaneous oxidation (except emissions and uptake of biogenic carbon)

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