

Owner: ACT Colour  
No.: MD-26009-EN  
Issued: 16-01-2026  
Valid to: 16-01-2031

3<sup>rd</sup> PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804



### Owner of declaration

ACT Colour  
c/o Nielsen Nørager  
Frederiksberggade 16, 1459  
Copenhagen  
VAT: 41253843  
<https://actcolour.com/>



### Issued:

16-01-2026

### Valid to:

16-01-2031

### Basis of calculation

This EPD is developed and verified in accordance with the European standard EN 15804+A2.

### Comparability

EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

### Validity

This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

### Use

The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

### EPD type

- ☐ Cradle-to-gate with modules C1-C4 and D
- ☒ Cradle-to-gate with options, modules C1-C4 and D
- ☐ Cradle-to-grave and module D
- ☐ Cradle-to-gate
- ☐ Cradle-to-gate with options

### Programme

EPD Danmark  
[www.epddanmark.dk](http://www.epddanmark.dk)



- ☐ Industry EPD
- ☒ Product EPD

- ☒ Product specific
- ☐ Average
- ☐ Worst Case

### Declared product(s)

The declared product is a lime soap glue paint – white with a density of 0,7 kg/L with the function to coat, decorate and protect surfaces indoors and outdoors. Consumption of the product depends on the applied surface while on plaster surfaces it covers approximately 7 m<sup>2</sup> per kg of paint.

Number of declared datasets/product variations: 1

### Production site

Denmark

### Use of Guarantees of Origin

- ☒ No certificates used
- ☐ Electricity covered by GoO
- ☐ Biogas covered by GoO

### Declared

1 kg of lime soap glue paint with a density of 0,7 kg/L

### Year of production site data (A3)

2025

### EPD version

No. 1, 2025

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

- ☒ internal
- ☒ external

Third party verifier:

David Althoff Palm, Dalemarmen AB

Martha Katrine Sørensen  
EPD Danmark

### Life cycle stages and modules (ND = module not declared)

| Product             |           |               | Construction process |                      | Use |             |        |             |               |                        |                       | End of life                |           |                  |          | Beyond the system boundary               |
|---------------------|-----------|---------------|----------------------|----------------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------------|
| Raw material supply | Transport | Manufacturing | Transport            | Installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Re-use, recovery and recycling potential |
| A1                  | A2        | A3            | A4                   | A5                   | B1  | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                        |
| X                   | X         | X             | X                    | X                    | ND  | ND          | ND     | MD          | ND            | ND                     | ND                    | X                          | X         | X                | X        | X                                        |

# Product information

## Product description

Lime soap glue paint is a paint for indoor and outdoor use. It consists of a mineral binder, soap flakes, organic additive and water. mineral flakes and the additive improve durability compared to using the mineral binder alone. Mineral pigments are added to achieve the white color. Depending on the surface being painted, 1 L of paint can cover approx. 5 m<sup>2</sup> of plaster surface, approx. 6 m<sup>2</sup> of wood surface, and approx. 8 m<sup>2</sup> of wallpaper.

The main product components are shown in the table below.

| Material         | Weight-% of declared product |
|------------------|------------------------------|
| Water            | 44%                          |
| Mineral Binder   | 31%                          |
| Mineral pigments | 14%                          |
| Soap flakes      | 9%                           |
| Additive         | 2%                           |
|                  | <b>100%</b>                  |

## Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

| Material                  | Weight of packaging material (kg) | Weight-% of packaging |
|---------------------------|-----------------------------------|-----------------------|
| Polypropylene (PP) bucket | 0,056                             | 5,3%                  |

## Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of 1 kg lime soap glue paint on the production site located in Ringsted, Denmark. Product specific data are based on average values collected in the production period during 3 months in the calendar year of 2025 from July 2025 until September 2025. ACT Colour has recently commenced production of the lime soap glue paint, and the process is still being optimized. Thus, production data were only collected for a three-month period. If updated

operational data differ significantly from the assumptions applied in this EPD, the life cycle model must be revised and the EPD updated accordingly.

Background data are based on the database from Ecoinvent v3.11 and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

## Hazardous substances

Lime soap glue paint from ACT colors does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

(<http://echa.europa.eu/candidate-list-table>)

## Product use

The lime soap glue paint is suitable for application on surfaces both outdoor and indoor. Outdoor it is only suitable for planed and rough wood as well as on lime or KC plaster facades. For indoor use plastered walls, ceilings, base paper wallpaper, and plasterboard are suitable surfaces. The application of the paint requires an absorbent surface hence it is not suitable for concrete, doors, panels, stairwell walls, wet rooms, and windows. The paint should be applied with a lime brush for outdoor use, or a paintbrush/brush for indoor use.

## Essential characteristics

The product declared within this EPD is not covered by any harmonized technical specification. Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

<https://actcolour.com/>

## Reference Service Life (RSL)

No product-specific data exists for the reference service life (RSL) of the ACT Colour lime soap glue

paint. Based on Danish practice<sup>1</sup> for paint applied on building surfaces and consistent with ACT Colour's own information, a 10-year RSL is applied in this EPD.

#### Picture of product(s)



<sup>1</sup> Haugbølle, K., Mahdi, V., Morelli, M., & Wahedi, H. (2021). *BUILD levetidstabel: Version 2021*. BUILD

# LCA background

## Declared unit

The LCI and LCIA results in this EPD relate to 1 kg lime soap glue paint with a density of 0,7 kg/L.

| Name          | Value | Unit |
|---------------|-------|------|
| Declared unit | 1     | kg   |
| Density       | 0,7   | kg/L |

## Functional unit

Not defined.

## PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804:2012+A2:2019.

Information about the energy mix in the foreground system:

## Conversion factors

To convert the declared unit of 1 kg of lime soap glue paint into other units, the following table provides the corresponding conversion factors. The conversion to square meters is based on a coverage rate of 5 m<sup>2</sup> per liter of paint applied to a plaster surface.

| Name                                                     | Conversion factor |
|----------------------------------------------------------|-------------------|
| Conversion factor into L                                 | 1,43              |
| Conversion factor into m <sup>2</sup> on plaster surface | 0,14              |

## Energy modelling principles

Foreground system:

No use of certified green energy is applied in this study. The residual energy mix from Denmark is used to model the electricity consumption in the production. The residual mix from Germany is used to model the production of organic additive.

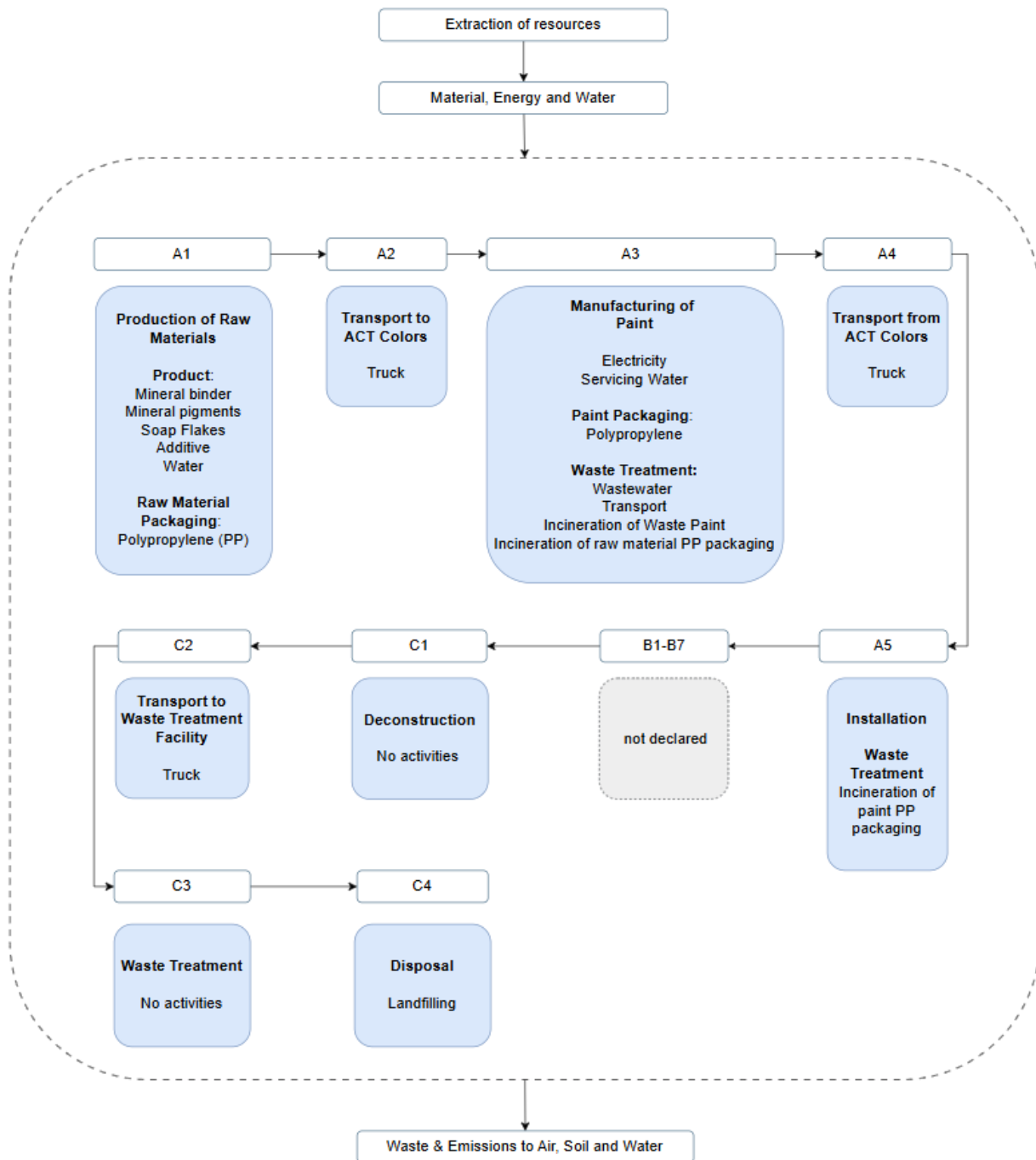
Consumption of gas in the production of organic additive is modelled with natural gas. No heat is consumed during the production of the declared unit.

| Energy mix                                    | EF    | Unit                     |
|-----------------------------------------------|-------|--------------------------|
| Residual mix, DE, low voltage, ref. year 2024 | 0,239 | kg CO <sub>2</sub> e/kWh |
| Natural gas, EU, ref. year 2024               | 0,075 | kg CO <sub>2</sub> e/MJ  |
| Residual mix, DK, low voltage, ref. year 2024 | 0,192 | kg CO <sub>2</sub> e/kWh |
| Natural gas, DK, ref. year 2025               | 0,078 | kg CO <sub>2</sub> e/MJ  |

Background system:

Other processes upstream and downstream from production are modelled with European or global processes from the Ecoinvent v3.11 background database that is based on average data

## Flowdiagram



## System boundary

This EPD is based on a cradle-to-gate LCA with options, modules C1-C4 and D. The additional modules are A4-A5. 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

The following table shows the omitted processes.

| Material/process                                                      | Reason for exclusion                                                                                                                                        |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capital goods such as buildings, machinery, tools and infrastructure  | Environmental impact associated per produced product is expected to be negligible                                                                           |
| Minor auxiliary and machinery inputs in casein production             | According to cut-off criteria.                                                                                                                              |
| Transport, packaging and packaging EoL for soap flakes and dry casein | Due to negligible amounts and uncertainties about the packaging material and amounts, the packaging (A1), transport (A2) and packaging EoL (A3) is omitted. |
| Flaking of soap                                                       | lack of available literature data and time constraint                                                                                                       |

### Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal.

Module **A1** includes the extraction of raw materials used in ACT Colour's lime soap glue paint - white, the production of these ingredients, and the packaging required for their supply.

**A2** covers the transport of all raw materials to the production facility by truck from suppliers in Germany and Denmark.

**A3** includes the manufacturing of lime soap glue paint - white, involving the manual mixing of raw materials. The mixing is carried out by an electrically powered mixer. The paint is poured into a PP bucket for product packaging. Utility consumption includes the electricity used by the mixer and the water required for its cleaning.

During the production of lime soap glue paint, no waste occurs. To remain conservative an assumption of 2% waste is applied to account for paint that does not meet quality requirements and is therefore discarded. The waste paint is modeled up to the final disposal state including transport to the incineration facility. Heat demand for the manufacturing facility is estimated.

Finally, waste processing and transport to treatment facility related to raw material PP packaging from A1 is included in A3. The main end-of-life treatment for plastic packaging in Danish construction sector is recycling<sup>2</sup>. To account for collection losses and recycling inefficiencies 95% of the PP packaging is assumed to be recycled and 5% incinerated. Wastewater is sent to treatment facility.

### Construction process stage (A4-A5) includes:

Installation of the lime soap glue paint - white is assumed to be in Denmark. Therefore, Module A4 includes the transport by truck of the paint to the construction site within Denmark, where 100 km were assumed. Installation is conducted manually where no additional energy or material is consumed. The only impact included in Module A5 is the end-of-life treatment of the paint's PP packaging. Since this packaging is the same type of PP as used for raw material packaging, the same assumptions are applied: 95% is recycled and 5% is incinerated.

### Use stage (B1-B7) includes:

Not declared

### End of Life (C1-C4) includes:

At EoL, painted building components are most often demolished as composite materials, and the paint layer is not removed or treated separately.

<sup>2</sup> Statistics Denmark. (2025). *AFFALD: Waste generation by industry, kind of treatment and waste category*. <https://www.statistikbanken.dk/20294>

As a result, the paint follows the waste management route of the underlying construction element, where landfilling is modelled as the end-of-life scenario. It is assumed that all dry matter from the paint is collected, transported, and landfilled. To ensure methodological alignment, comparability, and compliance with the *Bygningsreglementet*<sup>3</sup> approach, this background report and EPD adopt the same landfill scenario for the lime soap glue paint.

Manual dismantling is assumed and therefore no impacts are declared in **C1**.

In **C2**, transportation by truck from the deconstruction site to the landfill is estimated at 50 km, based on standard distances to such facilities.

**C3** includes no waste processing activity due to landfilling of the waste paint.

In **C4**, the paint is landfilled where no landfill gas recovery is considered in this scenario.

**Re-use, recovery and recycling potential (D) includes:**

In module D, credits for avoided energy production and raw material extraction are

accounted for. This includes both, energy recovered during the incineration of the paint's PP packaging and recycling of the paint's PP packaging. The packaging of the lime soap glue paint reaching its end-of-life in A5 is sent to recycling, with a 5% fraction assumed to be lost and sent to incineration with energy recovery.

<sup>3</sup> Trafik-, Bygge- og Boligstyrelsen. (2018). *BR18 – Bygningsreglement 2018, Bilag 2, Tabel 7*.

# LCA results

The LCIA results are calculated with SimaPro v.10.2.0.3 with the Ecoinvent database version 3.11 using the LCA-method Cut-off by classification and the Environmental Footprint (EF 3.1) impact methodology in accordance with EN15804+A2:2019.

| ENVIRONMENTAL IMPACTS PER kg |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |          |          |       |          |          |          |          |           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|-------|----------|----------|----------|----------|-----------|
| Indicator                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | A1-A3     | A4       | A5       | B1-B7 | C1       | C2       | C3       | C4       | D         |
| GWP-total                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9,07E-01  | 2,09E-02 | 3,78E-02 | ND    | 0,00E+00 | 4,95E-03 | 0,00E+00 | 2,33E-01 | -1,19E-01 |
| GWP-fossil                   | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9,65E-01  | 2,09E-02 | 3,61E-02 | ND    | 0,00E+00 | 4,95E-03 | 0,00E+00 | 3,22E-03 | -1,19E-01 |
| GWP-biogenic                 | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -2,30E-01 | 1,38E-05 | 1,67E-03 | ND    | 0,00E+00 | 3,26E-06 | 0,00E+00 | 2,30E-01 | -4,47E-04 |
| GWP-luluc                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,72E-01  | 6,94E-06 | 3,94E-05 | ND    | 0,00E+00 | 1,64E-06 | 0,00E+00 | 1,85E-06 | -5,98E-05 |
| ODP                          | kg CFC 11 eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2,35E-08  | 4,56E-10 | 3,23E-10 | ND    | 0,00E+00 | 1,08E-10 | 0,00E+00 | 8,97E-11 | -5,95E-09 |
| AP                           | mol H <sup>+</sup> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5,50E-03  | 6,72E-05 | 9,59E-05 | ND    | 0,00E+00 | 1,59E-05 | 0,00E+00 | 2,26E-05 | -3,34E-04 |
| EP-freshwater                | kg P eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4,51E-05  | 1,53E-07 | 1,38E-06 | ND    | 0,00E+00 | 3,62E-08 | 0,00E+00 | 3,15E-08 | -2,11E-06 |
| EP-marine                    | kg N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2,77E-03  | 2,24E-05 | 1,73E-05 | ND    | 0,00E+00 | 5,29E-06 | 0,00E+00 | 8,61E-06 | -6,98E-05 |
| EP-terrestrial               | mol N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,87E-02  | 2,46E-04 | 1,92E-04 | ND    | 0,00E+00 | 5,81E-05 | 0,00E+00 | 9,46E-05 | -7,56E-04 |
| POCP                         | kg NMVOC eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3,01E-03  | 1,02E-04 | 6,21E-05 | ND    | 0,00E+00 | 2,41E-05 | 0,00E+00 | 3,42E-05 | -6,45E-04 |
| ADPm <sup>1</sup>            | kg Sb eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6,42E-06  | 7,05E-08 | 1,92E-07 | ND    | 0,00E+00 | 1,67E-08 | 0,00E+00 | 4,69E-09 | -6,30E-07 |
| ADPf <sup>1</sup>            | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,19E+01  | 2,97E-01 | 3,54E-01 | ND    | 0,00E+00 | 7,01E-02 | 0,00E+00 | 7,89E-02 | -3,95E+00 |
| WDP <sup>1</sup>             | m <sup>3</sup> world eq. deprived                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 7,79E-01  | 1,50E-03 | 8,02E-03 | ND    | 0,00E+00 | 3,54E-04 | 0,00E+00 | 3,50E-03 | -2,58E-02 |
| Caption                      | GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidification;                                                                                                                                                                                                                                                 |           |          |          |       |          |          |          |          |           |
| Disclaimer                   | <p>EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use</p> <p><sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> |           |          |          |       |          |          |          |          |           |

### ADDITIONAL ENVIRONMENTAL IMPACTS PER kg

| Parameter           | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1-A3    | A4       | A5       | B1-B7 | C1       | C2       | C3       | C4       | D         |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-------|----------|----------|----------|----------|-----------|
| PM                  | [Disease incidence]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5,24E-08 | 1,67E-09 | 5,48E-10 | ND    | 0,00E+00 | 3,94E-10 | 0,00E+00 | 5,18E-10 | -2,28E-09 |
| IRP <sup>2</sup>    | [kBq U235 eq.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,63E-02 | 1,28E-04 | 2,67E-03 | ND    | 0,00E+00 | 3,03E-05 | 0,00E+00 | 1,83E-05 | -2,79E-03 |
| ETP-fw <sup>1</sup> | [CTUe]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8,54E+00 | 3,94E-02 | 1,18E-01 | ND    | 0,00E+00 | 9,31E-03 | 0,00E+00 | 5,71E-03 | -2,59E-01 |
| HTP-c <sup>1</sup>  | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6,17E-10 | 3,58E-12 | 1,18E-11 | ND    | 0,00E+00 | 8,45E-13 | 0,00E+00 | 5,84E-13 | -2,20E-11 |
| HTP-nc <sup>1</sup> | [CTUh]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8,03E-09 | 1,86E-10 | 3,06E-10 | ND    | 0,00E+00 | 4,39E-11 | 0,00E+00 | 1,31E-11 | -7,23E-10 |
| SQP <sup>1</sup>    | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,05E+02 | 1,75E-01 | 8,80E-02 | ND    | 0,00E+00 | 4,14E-02 | 0,00E+00 | 1,55E-01 | -3,08E-01 |
| Caption             | 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                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |          |       |          |          |          |          |           |
| Disclaimers         | <sup>1</sup> The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.<br><sup>2</sup> 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 PER kg

| Parameter | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A1-A3    | A4       | A5        | B1-B7 | C1       | C2       | C3       | C4       | D         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------|-------|----------|----------|----------|----------|-----------|
| PERE      | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7,03E+00 | 4,83E-03 | 8,19E-02  | ND    | 0,00E+00 | 1,14E-03 | 0,00E+00 | 7,37E-04 | -1,02E-01 |
| PERM      | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,61E+00 | 0,00E+00 | 0,00E+00  | ND    | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PERT      | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8,64E+00 | 4,83E-03 | 8,19E-02  | ND    | 0,00E+00 | 1,14E-03 | 0,00E+00 | 7,37E-04 | -1,02E-01 |
| PENRE     | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,23E+01 | 2,97E-01 | 1,84E+00  | ND    | 0,00E+00 | 7,01E-02 | 0,00E+00 | 7,89E-02 | -3,95E+00 |
| PENRM     | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,89E+00 | 0,00E+00 | -1,84E+00 | ND    | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PENRT     | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,42E+01 | 2,97E-01 | 0,00E+00  | ND    | 0,00E+00 | 7,01E-02 | 0,00E+00 | 7,89E-02 | -3,95E+00 |
| SM        | [kg]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3,05E-03 | 1,33E-04 | 7,82E-05  | ND    | 0,00E+00 | 3,13E-05 | 0,00E+00 | 1,96E-05 | -5,75E-04 |
| RSF       | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,27E-03 | 1,74E-06 | 1,17E-06  | ND    | 0,00E+00 | 4,11E-07 | 0,00E+00 | 4,10E-07 | -3,05E-06 |
| NRSF      | [MJ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,00E+00 | 0,00E+00 | 0,00E+00  | ND    | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| FW        | [m <sup>3</sup> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,84E-02 | 3,71E-05 | 2,14E-04  | ND    | 0,00E+00 | 8,76E-06 | 0,00E+00 | 8,19E-05 | -6,33E-04 |
| Caption   | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials;<br>PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources;<br>PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials;<br>PENRM = Use of non renewable primary energy resources used as raw materials;<br>PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels;<br>NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water |          |          |           |       |          |          |          |          |           |

**WASTE CATEGORIES AND OUTPUT FLOWS PER kg**

| Parameter | Unit | A1-A3    | A4       | A5       | B1-B7 | C1       | C2       | C3       | C4       | D         |
|-----------|------|----------|----------|----------|-------|----------|----------|----------|----------|-----------|
| HWD       | [kg] | 8,51E-02 | 4,25E-04 | 1,55E-03 | ND    | 0,00E+00 | 1,00E-04 | 0,00E+00 | 8,98E-05 | -3,51E-03 |
| NHWD      | [kg] | 2,86E+00 | 9,12E-03 | 7,77E-02 | ND    | 0,00E+00 | 2,16E-03 | 0,00E+00 | 5,17E-01 | -1,01E+00 |
| RWD       | [kg] | 1,23E-05 | 8,73E-08 | 2,17E-06 | ND    | 0,00E+00 | 2,06E-08 | 0,00E+00 | 1,15E-08 | -2,13E-06 |

|         |                                                                                                                                                                                                                                                                         |          |          |          |    |          |          |          |          |           |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----|----------|----------|----------|----------|-----------|
| CRU     | [kg]                                                                                                                                                                                                                                                                    | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| MFR     | [kg]                                                                                                                                                                                                                                                                    | 1,07E-02 | 3,55E-06 | 5,31E-02 | ND | 0,00E+00 | 8,39E-07 | 0,00E+00 | 8,55E-07 | -5,56E-05 |
| MER     | [kg]                                                                                                                                                                                                                                                                    | 2,28E-02 | 1,88E-08 | 7,41E-09 | ND | 0,00E+00 | 4,45E-09 | 0,00E+00 | 1,52E-09 | -6,81E-08 |
| EEE     | [MJ]                                                                                                                                                                                                                                                                    | 3,93E-02 | 5,83E-05 | 1,45E-03 | ND | 0,00E+00 | 1,38E-05 | 0,00E+00 | 5,12E-06 | -1,48E-03 |
| EET     | [MJ]                                                                                                                                                                                                                                                                    | 2,36E-02 | 7,15E-05 | 3,80E-05 | ND | 0,00E+00 | 1,69E-05 | 0,00E+00 | 2,72E-06 | -3,68E-04 |
| Caption | HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy |          |          |          |    |          |          |          |          |           |

**BIOGENIC CARBON CONTENT PER kg**

| Parameter                                         | Unit                                                              | At the factory gate |
|---------------------------------------------------|-------------------------------------------------------------------|---------------------|
| Biogenic carbon content in product                | [kg C]                                                            | 6,3E-02             |
| Biogenic carbon content in accompanying packaging | [kg C]                                                            | 0                   |
| Note                                              | 1 kg biogenic carbon is equivalent to 44/12 kg of CO <sub>2</sub> |                     |

## Additional information

Data quality has been assessed following EN 15804+A2, Annex E, Table E.1, considering geography, technology, and time. Most datasets are of good to very good quality. The mineral binder dataset was rated fair in geographical representativeness, affecting over 30 % of some core impact categories (GWP-total, GWP-fossil, Photochemical Ozone Depletion, Abiotic depletion potential -minerals and metals, Abiotic depletion potential -fossil fuels). Overall, the data are considered representative, reliable, and suitable for this EPD.

### LCA interpretation

The raw material extraction stage (A1) is the dominant source of environmental impacts across nearly all categories (except GWP-biogenic). This is mainly driven by the upstream processes from the production of hydraulic lime, soap flakes, and dry casein. Although casein represents only about 2% of the product's weight, its dairy-based origin leads to comparatively high environmental burdens. For GWP-biogenic, negative values in A1 reflect biogenic carbon stored in upstream processes during soap and casein production. As required by EN 15804+A2, this uptake must be balanced by an equivalent release at end-of-life. Therefore, Module C4 contains a matching positive emission, ensuring that total biogenic CO<sub>2</sub> flows net to zero over the life cycle.

Impacts in A3 mainly stem from the heating of the manufacturing facility and production of the paint's PP packaging. In Module D, avoided PP plastic production due to the recycling of the paint packaging reduces the overall environmental impact. However, these benefits do not outweigh the dominant impacts from A1. Deconstruction (C1) and waste processing (C3) show no measurable impacts, as no energy inputs occur in these stages.

### Technical information on scenarios

#### Transport to the building site (A4)

| Scenario information                        | Value                           | Unit |
|---------------------------------------------|---------------------------------|------|
| Fuel type                                   | Diesel                          | -    |
| Vehicle type                                | Truck, 16-32 metric ton, EURO 5 | -    |
| Transport distance                          | 100                             | km   |
| Capacity utilisation (including empty runs) | 36,6                            | %    |
| Gross density of products transported       | Weight: 1,056; Volume: 1,43 L   | -    |
| Capacity utilisation volume factor          | Not applicable                  | -    |

#### Installation of the product in the building (A5)

| Scenario information                   | Value | Unit           |
|----------------------------------------|-------|----------------|
| Ancillary materials                    | -     | kg             |
| Water use                              | -     | m <sup>3</sup> |
| Other resource use                     | -     | kg             |
| Energy type and consumption            | -     | kWh            |
| Waste materials                        | 0,056 | kg             |
| Output materials                       | -     | kg             |
| Direct emissions to air, soil or water | -     | kg             |

#### Reference service life

| RSL information        |    | Unit  |
|------------------------|----|-------|
| Reference service Life | 10 | Years |

#### End of life (C1-C4)

| Scenario information                 | Value | Unit |
|--------------------------------------|-------|------|
| Collected separately                 | -     | kg   |
| Collected with mixed waste           | -     | kg   |
| For reuse                            | -     | kg   |
| For recycling                        | -     | kg   |
| For energy recovery                  | -     | kg   |
| For final disposal                   | 0,05  | kg   |
| Assumptions for scenario development | -     |      |

#### Re-use, recovery and recycling potential (D)

| Scenario information/Material           | Value | Unit |
|-----------------------------------------|-------|------|
| Displaced material                      | 0,053 | kg   |
| Energy recovery from waste incineration | 0,011 | MJ   |

#### Indoor air

The product has been tested for indoor air emissions and holds the Indoor Air Comfort Gold certification. This certification follows harmonized European standards (EN 16516 / ISO 16000 series) for VOC emissions.

#### Soil and water

*The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.2.*

## References

|                                       |                                                                                                                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Publisher</b>                      |  epddanmark<br><a href="http://www.epddanmark.dk">www.epddanmark.dk</a><br><small>Template version 2025.1</small> |
| <b>Programme operator</b>             | Danish Technological Institute<br>Gregersensvej<br>DK-2630 Taastrup<br><a href="http://www.teknologisk.dk">www.teknologisk.dk</a>                                                                    |
| <b>LCA-practitioner</b>               | Artelia A/S<br>Mariane Thomsens Gade 1C<br>DK-8000 Aarhus C<br><br>Sabine Krauss                                                                                                                     |
| <b>LCA software / background data</b> | <i>Software: SimaPro v.10.2.0.3</i>                                                                                                                                                                  |

|                                      |                                                                                              |
|--------------------------------------|----------------------------------------------------------------------------------------------|
|                                      | Background data: Ecoinvent v3.11<br>LCIA method: EN 15804 reference package 3.1              |
| <b>3<sup>rd</sup> party verifier</b> | David Althoff Palm, Dalemarken AB<br>Verified according to Verification Checklist 1 v. 2.9.1 |

### General programme instructions

General Programme Instructions, version 3.0, spring 2025

[www.epddanmark.dk](http://www.epddanmark.dk)

### Technical Rules and Guidelines

Technical Rules and Guidelines, version 1.0, spring 2025

[www.epddanmark.dk](http://www.epddanmark.dk)

### EN 15804

DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

### EN 15942

DS/EN 15942:2011 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

Haugbølle, K., Mahdi, V., Morelli, M., & Wahedi, H. (2021). BUILD levetidstabel: Version 2021. BUILD

### ISO 14025

DS/EN ISO 14025:2010 – " Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

### ISO 14040

DS/EN ISO 14040:2008 – " Environmental management – Life cycle assessment – Principles and framework"

### ISO 14044

DS/EN ISO 14044:2008 – " Environmental management – Life cycle assessment – Requirements and guidelines"

Statistics Denmark. (2025). *AFFALD: Waste generation by industry, kind of treatment and waste category*. <https://www.statistikbanken.dk/20294>

Trafik-, Bygge- og Boligstyrelsen. (2018). BR18 – Bygningsreglement 2018, Bilag 2, Tabel 7.

Image courtesy Dinesen: Photographer Monica Steffesen