

Environmental Product Declaration



THE INTERNATIONAL EPD® SYSTEM



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

Wood floor lacquer

Traffic GO

from

Bona



| | |
|--------------------------|---|
| Programme: | The International EPD® System, www.environdec.com |
| Programme operator: | EPD International AB |
| EPD registration number: | EPD-IES-0016513 |
| Publication date: | 2024-09-16 |
| Valid until: | 2029-09-15 |

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



General information

Programme information

| | |
|-------------------|---|
| Programme: | The International EPD® System |
| Address: | EPD International AB Box 210 60 SE-100 31 Stockholm Sweden |
| Website: | www.environdec.com |
| E-mail: | info@environdec.com |

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|--|
| 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): <i>Construction Products PCR 2019:14 version 1.3.4</i> |
| PCR review was conducted by: <i>Martin Erlandsson, IVL Swedish Environmental Research Institute, Martin.Erlandsson@ivl.se</i> |
| Life Cycle Assessment (LCA) |
| LCA accountability: <i>Amit Lotan, Carbonzero AB, Amit.lotan@carbonzero.se</i> |
| Third-party verification |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input type="checkbox"/> EPD verification by an individual verifier Third-party verifier: <i>Stephen Forson, Viridis Pride Ltd, S.Forson@viridispride.com</i> Approved by: The International EPD® System |
| Procedure for follow-up of data during EPD validity involves third-party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: Bona, Ltd

Contact: Bjorn Johansson, Bjorn.Johansson@bona.com

Description of the organization: Bona AB is a company that produces and sells products for floor coating, maintenance, and refurbishment of floors. Bona wishes to understand the environmental impacts of its floor coating chemicals used to refurbish old flooring and make this information publicly available as an EPD

Name and location of production site(s): Malmö, Sweden

Product information

Product name: Traffic GO

Product identification: Wood floor lacquer

Product Description: waterborne lacquer with a built-in hardener

UN CPC code: 35110

Geographical scope: Raw materials are sourced mainly from within Europe. Manufacturing is in Sweden. Products are sold worldwide.

Technical specification:

Product type: Self-crosslinking waterborne polyurethane topcoat

Solids content: Approx. 30%

Sheen (at 60°): Silk matt 45-50%, Matt 20-25%, Extra Matt 9-13%, Ultra matt approx. 5% (on glass)

Dilution: If required, dilute with 4% Bona Retarder for a longer open time

Drying time until Recoating: 2-3 hours*

Full use: 24 hours*

Possible to cover: 3 days*

Application tools: Bona Roller or Swivel Head Applicator

Application rate: 8-10 m²/liter (100-120g/m²) per coat

*under normal climate conditions, 20°C/60% R.H.

LCA information

Functional unit / declared unit: 1 kg of coating material, Produced and Packed

Reference service life: 15 years

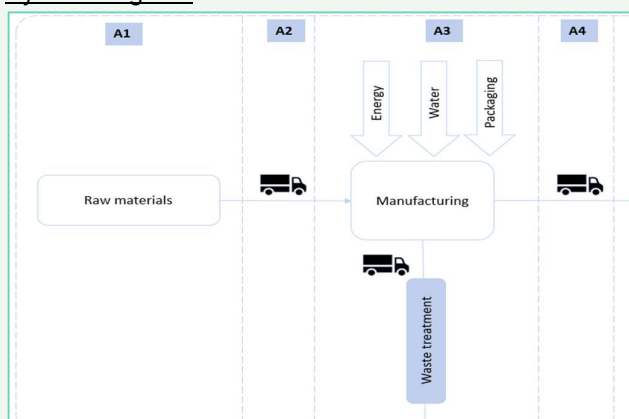
Time representativeness: Manufacturing data from 2023.

Database(s) and LCA software used: SimaPro v9.5, Ecoinvent 3.10

Description of system boundaries: Cradle-to-gate with options, modules A1-A3, A4

Allocation: the plant produces a range of chemicals. Actual manufacturing data for A3 was recorded for 2023. The allocation used a combination of economic (where feasible) and mass allocation by the accounting and production teams.

System diagram:



More information:

Manufacturing Description:

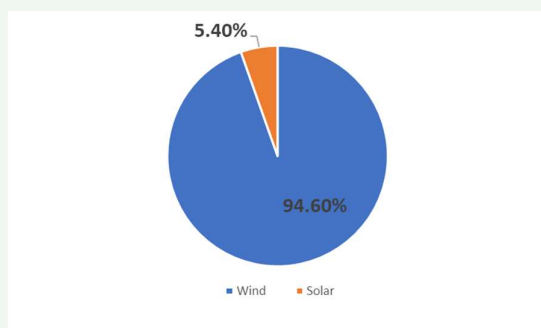
The manufacturing process can vary depending on the type of intended application. It consists of mainly:

- **Mixing and Heating:** Select resins are mixed with water and in specific ratios. The mixture is heated to dissolve all components properly and facilitate mixing.
- **Filtration:** The mixture is filtered to remove impurities or undissolved particles, ensuring a smooth and consistent final product.
- **Quality Control:** Quality checks ensure the products meet the desired specifications.
- **Packaging:** The final product is packed in various sizes and sent to warehouses for storage and dispatch.

A3 electricity: Bona specifies the electricity mix used for 2023. It has a climate change total of 0.005 kg CO2e per kWh.

Bona produces solar electricity (5,3% of the total) and buys wind (94,6%).

Bona's heating comes from their bought Biogas, used for heating in manufacturing vessels.



Supplier waste is being disposed of in this stage.

- Solid waste is disposed of as municipal waste
- Wastewater is treated in nearby treatment facility WWP

Plastic and Cardboard are disposed of in municipal incineration

A4 transport to global sellers - The products are sold worldwide. A weighted average transport distance was calculated and used.

| | Truck | Ship |
|--|--|---|
| Vehicle and fuel types | Truck-trailer, Euro 0 - 6 mix, 34 - 40t gross weight / 27t payload capacity Using 0.021 kg diesel per tkm | Container ship, 5.000 to 200.000 dwt payload capacity, deep sea Using 0.0027 kg heavy fuel oil per tkm |
| Distance /km | 200 | 100 |
| Capacity utilisation /% | 61 Dataset default value | 70 Dataset default value |
| Bulk density of transported products/kg/m ³ | 1000 | 1000 |
| Volume capacity utilization factor | 1 | 1 |

Modules declared, geographical scope, Specific data used.

| | 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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Geography | GLO | GLO | SE | GLO | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Specific data used | ~10 % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Product Variation | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Site Variation | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Content information

| Product Components | Weight, kg | Post-consumer material, weight-% | Biogenic material, weight-% and kg C/kg |
|---------------------|--------------------|----------------------------------|---|
| Water | 0.7 | 0 | 0 |
| Organic Chemicals | 0.2 | 0 | 0 |
| Additives | 0.1 | 0 | 0 |
| TOTAL | 1 | 0 | 0 |
| Packaging materials | Maximum weight, kg | Weight-% (versus the product) | Weight biogenic carbon, kg C/kg |
| Paper and board | 2.43E-03 | 0.2 % | 1.04E-03 |
| Plastic | 5.63E-02 | 5.6 % | 0 |
| Pallet | 9.21E-04 | 0.1 % | 5.34E-04 |
| TOTAL | 5.97E-02 | 5.9 % | 1.58E-03 |

None of the raw materials used in this product, and at the time of production of the EPD, fall within the Candidate List of Substances of Very High Concern for the Authorization of the European Chemicals Agency. In any case, the eventual presence of Substances of Very High Concern would be reported in the safety data sheets for each product/product group.

Results of the Environmental Performance Indicators

Using EN15804 reference package EF3.1

Mandatory impact category indicators according to EN 15804

| | | Results per functional or declared unit | | | | | |
|----------------------|---|---|-----------|----------|----------|----------|----------|
| Indicator | Unit | Total | A1 | A2 | A3 | A1-A3 | A4 |
| GWP- total | kg CO ₂ eq. | 3.50E+00 | 3.04E+00 | 8.40E-02 | 1.14E-01 | 3.24E+00 | 2.67E-01 |
| GWP-biogenic | kg CO ₂ eq. | 0 | -8.51E-03 | 0 | 8.51E-03 | 0.00E+00 | 0 |
| GWP-fossil | kg CO ₂ eq. | 3.82E+00 | 3.09E+00 | 8.39E-02 | 3.78E-01 | 3.55E+00 | 2.66E-01 |
| GWP-luluc | kg CO ₂ eq. | 3.37E-02 | 3.26E-02 | 4.12E-05 | 9.02E-04 | 3.35E-02 | 1.37E-04 |
| ODP | kg CFC 11 eq. | 2.55E-05 | 2.54E-05 | 1.83E-09 | 3.43E-09 | 2.54E-05 | 5.66E-09 |
| AP | mol H ⁺ eq. | 1.87E-02 | 1.47E-02 | 3.63E-04 | 1.88E-03 | 1.69E-02 | 1.74E-03 |
| EP-freshwater | kg P eq. | 1.20E-04 | 1.00E-04 | 6.73E-07 | 1.69E-05 | 1.18E-04 | 2.04E-06 |
| EP-marine | kg N eq. | 3.73E-03 | 2.63E-03 | 1.35E-04 | 4.06E-04 | 3.17E-03 | 5.63E-04 |
| EP-terrestrial | mol N eq. | 3.95E-02 | 2.75E-02 | 1.45E-03 | 4.45E-03 | 3.34E-02 | 6.12E-03 |
| POCP | kg NMVOC eq. | 1.49E-02 | 1.07E-02 | 5.18E-04 | 1.59E-03 | 1.28E-02 | 2.02E-03 |
| ADP-minerals&metals* | kg Sb eq. | 1.96E-05 | 1.69E-05 | 2.70E-07 | 1.71E-06 | 1.89E-05 | 8.05E-07 |
| ADP-fossil* | MJ | 7.16E+01 | 5.80E+01 | 1.20E+00 | 8.65E+00 | 6.79E+01 | 3.75E+00 |
| WDP* | m ³ | 1.98E+00 | 1.86E+00 | 4.86E-03 | 9.94E-02 | 1.96E+00 | 1.47E-02 |
| 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 | Total | A1 | A2 | A3 | A1-A3 | A4 |
| GWP-GHG ¹ | kg CO ₂ eq. | 3.50E+00 | 3.04E+00 | 8.40E-02 | 1.14E-01 | 3.24E+00 | 2.67E-01 |

Resource use indicators

| | Results per functional or declared unit | | | | | | |
|-----------|---|--|----------|----------|----------|----------|----------|
| Indicator | Unit | Total | A1 | A2 | A3 | A1-A3 | A4 |
| PERE | MJ | 9.83E+00 | 3.99E+00 | 1.85E-02 | 5.77E+00 | 9.78E+00 | 5.56E-02 |
| PERM | MJ | 3.03E-01 | 1.34E-01 | 0.00E+00 | 1.69E-01 | 3.03E-01 | 0.00E+00 |
| PERT | MJ | 1.01E+01 | 4.12E+00 | 1.85E-02 | 5.94E+00 | 1.01E+01 | 5.56E-02 |
| PENRE | MJ | 5.61E+01 | 4.70E+01 | 1.20E+00 | 4.15E+00 | 5.24E+01 | 3.75E+00 |
| PENRM | MJ | 1.55E+01 | 1.10E+01 | 0.00E+00 | 4.50E+00 | 1.55E+01 | 0.00E+00 |
| PENRT | MJ | 7.16E+01 | 5.80E+01 | 1.20E+00 | 8.65E+00 | 6.79E+01 | 3.75E+00 |
| SM | kg | 9.21E-04 | 0 | 0 | 9.21E-04 | 9.21E-04 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m ³ | 5.31E-02 | 4.97E-02 | 1.70E-04 | 2.67E-03 | 5.25E-02 | 5.15E-04 |
| 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | |

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

¹ 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 CO₂ is set to zero.

Disclaimers

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins, and risks.

| ILCD classification | Indicator | Disclaimer |
|--|---|------------|
| ILCD Type 1 | Global warming potential (GWP) | None |
| | Depletion potential of the stratospheric ozone layer (ODP) | None |
| | Potential incidence of disease due to PM emissions (PM) | None |
| ILCD Type 2 | Acidification potential, Accumulated Exceedance (AP) | None |
| | Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater) | None |
| | Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine) | None |
| | Eutrophication potential, Accumulated Exceedance (EP-terrestrial) | None |
| | Formation potential of tropospheric ozone (POCP) | None |
| | Potential Human exposure efficiency relative to U235 (IRP) | 1 |
| | Potential Soil quality index (SQP) | 2 |
| ILCD Type 3 | Abiotic depletion potential for non-fossil resources (ADP-minerals&metals) | 2 |
| | Abiotic depletion potential for fossil resources (ADP-fossil) | 2 |
| | Water (user) deprivation potential, deprivation-weighted water consumption (WDP) | 2 |
| | Potential Comparative Toxic Unit for ecosystems (ETP-fw) | 2 |
| | Potential Comparative Toxic Unit for humans (HTP-c) | 2 |
| | Potential Comparative Toxic Unit for humans (HTP-nc) | 2 |
| | Potential Soil quality index (SQP) | 2 |
| Disclaimer 1 – 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. | | |
| Disclaimer 2 – 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. | | |

References

| | |
|--------------------------|---|
| EN 15804:2012+A2 | Sustainability of construction works – Environmental product declaration – Core rules for the product category of construction products |
| EPD International (2024) | General Programme Instructions International EPD® System, version 5.0 |
| EPD S-P-01434 | Amotherm water-based coatings, 2019, published on EPD International https://www.environdec.com/library/epd1434 |
| EPD S-P-01822 | Boero Coatings, 2020, published on EPD International https://www.environdec.com/library/epd1822 |
| ISO 14020:2022 | International Standard ISO 14020 – Environmental statements and programs for products – Principles and general requirements |
| ISO 14025:2006 | International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures |
| ISO 14040:2006 | International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01. |
| PCR 2019:14 | Construction products v1.3.4 |

