

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Vivacolor LF



The Norwegian EPD Foundation

Owner of the declaration:

Tikkurila Oyj

Product:

Vivacolor LF

Declared unit:

1 kg

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 009:2018 Part B for Technical - Chemical products in the building and construction industry

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-5433-4733-EN

Registration number:

NEPD-5433-4733-EN

Issue date: 05.12.2023

Valid to: 05.12.2028

EPD Software:

LCA.no EPD generator ID: 54280

General information

Product

Vivacolor LF

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway
The Norwegian EPD Foundation
Phone: +47 23 08 80 00
web: post@epd-norge.no

Declaration number: NEPD-5433-4733-EN

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 009:2018 Part B for Technical - Chemical products in the
building and construction industry

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 kg Vivacolor LF

Declared unit with option:

A1-A3,A4

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.
Verification of each EPD is made according to EPD-Norway's
guidelines for verification and approval requiring that tools are i
integrated into the company's environmental management system, ii
the procedures for use of the EPD tool are approved by EPD-Norway,
and iii the process is reviewed annually by an independent third
party verifier. 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:

Tikkurila Oyj
Contact person: Tikkurila EPD-team
Phone: +358 20 191 2000
e-mail: epd-team@tikkurila.com

Manufacturer:

AS Tikkurila

Place of production:

AS Tikkurila
Liimi 5
10621 Tallinn, Estonia

Management system:

ISO9001, 14001, 45001

Organisation no:

FI01970674

Issue date: 05.12.2023

Valid to: 05.12.2028

Year of study:

2020

Comparability:

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

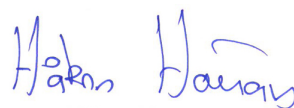
Development and verification of EPD:

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: Dawid Góral

Reviewer of company-specific input data and EPD: Elisabet Sahlin

Approved:



Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

Suitable for filing joints and smoothing plaster concrete, brick, gypsum board and primed fiberboard surfaces, also for filling cracks and holes.

Product specification

Packaging, 0,6-litre, 3-litre, 10-litre and 15-litre plastic buckets.
All calculations of the packaging material is made with the 10 liters bucket that represent the majority of the market.

Materials	Value	Unit
Dolomit	40 - 60	%
Water	30 - 50	%
Perlit	2,5 - 10	%
Acrylic acid ester	2,5 - 10	%
Cellulose derivate	0,1 - 5	%
1,2-benzisothiazol-3(2H)-one (BIT)	<1, Ref SDS	%
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (C(M)IT/ MIT (3:1))	<1, Ref SDS	%

Technical data:

Binding agent: Latex co-polymer
Solvent: Water
pH: Approx. 9
Colour: White

Market:

Europe

Reference service life, product

Filler has a limited shelf life and is date-marked.
Unopened packaging can be kept in a dark place, free from frost, for up to 12 months. Containers that have been opened must be sealed well.

Reference service life, building

Not part of the declaration.

LCA: Calculation rules

Declared unit:

1 kg Vivacolor LF

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.

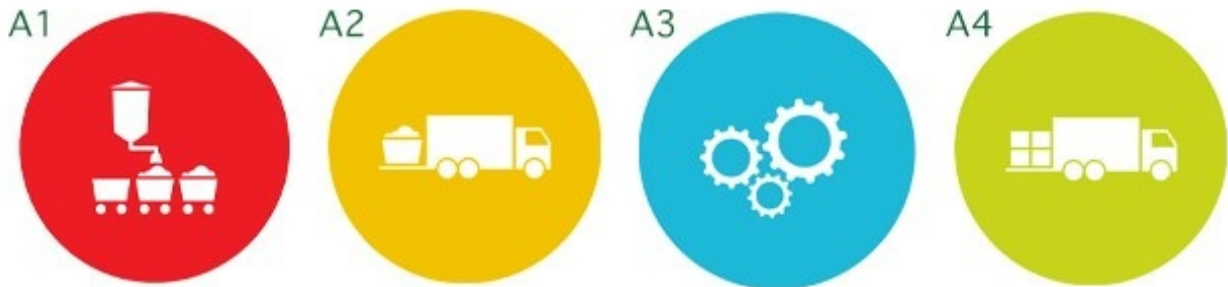
Materials	Source	Data quality	Year
Wet ready-mixed filler		EPD	2020

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														

System boundary:

A1-A4



Additional technical information:

Meets CE-marking requirements in accordance with EN 13963 and EN 15824. Manufactured in accordance with ISO 9001 and ISO 14001. When treating plasterboards, follow recommendations in accordance with EN 13963.














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/tonne)
Truck, 16-32 tonnes, EURO 5	36,7 %	300	0,044	l/tkm	13,20

LCA: Results

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

Environmental impact				
	Indicator	Unit	A1-A3	A4
	GWP-total	kg CO ₂ -eq	2,55E-01	5,00E-02
	GWP-fossil	kg CO ₂ -eq	3,10E-01	5,00E-02
	GWP-biogenic	kg CO ₂ -eq	-5,56E-02	2,04E-05
	GWP-luluc	kg CO ₂ -eq	2,36E-04	1,75E-05
	ODP	kg CFC11 -eq	3,49E-08	1,14E-08
	AP	mol H ⁺ -eq	3,25E-03	2,04E-04
	EP-FreshWater	kg P -eq	1,08E-05	3,93E-07
	EP-Marine	kg N -eq	5,97E-04	6,06E-05
	EP-Terrestrial	mol N -eq	6,32E-03	6,70E-04
	POCP	kg NMVOC -eq	1,84E-03	2,05E-04
	ADP-minerals&metals ¹	kg Sb -eq	4,90E-06	1,35E-06
	ADP-fossil ¹	MJ	6,25E+00	7,54E-01
	WDP ¹	m ³	1,77E+01	7,19E-01

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 = 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







"Reading example: 9,0 E-03 = 9,0*10⁻³ = 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

Remarks to environmental impacts

Additional environmental impact indicators











	Indicator	Unit	A1-A3	A4
	PM	Disease incidence	1,64E-08	3,60E-09
	IRP ²	kgBq U235 -eq	1,83E-02	3,30E-03
	ETP-fw ¹	CTUe	5,70E+00	5,55E-01
	HTP-c ¹	CTUh	3,18E-10	0,00E+00
	HTP-nc ¹	CTUh	4,29E-09	6,00E-10
	SQP ¹	dimensionless	5,34E+00	5,20E-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 = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 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				
	Indicator	Unit	A1-A3	A4
	PERE	MJ	8,14E-01	1,06E-02
	PERM	MJ	5,30E-01	0,00E+00
	PERT	MJ	1,34E+00	1,06E-02
	PENRE	MJ	5,41E+00	7,54E-01
	PENRM	MJ	1,13E+00	0,00E+00
	PENRT	MJ	6,54E+00	7,54E-01
	SM	kg	9,54E-04	0,00E+00
	RSF	MJ	1,76E-02	3,81E-04
	NRSF	MJ	6,20E-03	1,36E-03
	FW	m ³	4,95E-03	7,94E-05

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 = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"






*INA Indicator Not Assessed

End of life - Waste					
	Indicator		Unit	A1-A3	A4
	HWD		kg	5,98E-03	3,85E-05
	NHWD		kg	1,01E-01	3,60E-02
	RWD		kg	2,04E-05	5,14E-06

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					
	Indicator		Unit	A1-A3	A4
	CRU		kg	0,00E+00	0,00E+00
	MFR		kg	2,26E-03	0,00E+00
	MER		kg	1,50E-04	0,00E+00
	EEE		MJ	6,50E-03	0,00E+00
	EET		MJ	9,84E-02	0,00E+00

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

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

*INA Indicator Not Assessed

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	1,58E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional 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).

Dangerous substances

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

Indoor environment

Additional Environmental Information






Additional environmental impact indicators required in NPCR Part A for construction products

Indicator	Unit	A1-A3	A4
GWPIOBC	kg CO ₂ -eq	2,16E-01	5,00E-02

GWPIOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

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 ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.
 EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.
 ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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 Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no Report number: 07.21
 Iversen et al., (2020) EPD generator - Background information and LCA data for customer.
 NPCR Part A: Construction products and services. Ver. 2.0, 24.03.2021 EPD Norway.
 NPCR 009 Part B for technical-chemical products. Ver. 2.0 October 2021, EPD-Norge.

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