ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

FONTECRYL SC 50, FONTECRYL SC-EF 50

TIKKURILA GROUP

GENERAL INFORMATION

MANUFACTURER INFORMATION

Manufacturer	Tikkurila Group
Address	Heidehofintie 2, 01300 Vantaa, Finland
Contact details	epd-team@tikkurila.com
Website	www.tikkurilagroup.com

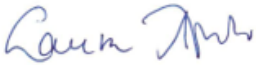
PRODUCT IDENTIFICATION

Product name	Fontecryl SC 50, Fontecryl SC-EF 50
Place(s) of production	Vantaa facility, Finland

The Building Information Foundation RTS sr

EPDs within the same product category but from different programmes may not be comparable.

Jukka Seppänen
RTS EPD Committee Secretary



Laura Apilo
Managing Director

EPD INFORMATION

The EPD owner has the sole ownership, liability, and responsibility for the EPD. Construction products EPDs may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

EPD program operator	The Building Information Foundation RTS sr
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804 serves as the core PCR. In addition, the RTS PCR (English version, 26.8.2020) is used.
EPD author	Minna Perttu, Tikkurila Oyj, 01300 Vantaa, Finland
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
Verification date	23.05.2022
EPD verifier	Silvia Vilčeková, Silcert, s.r.o.
EPD number	RTS_186_22
ECO Platform nr.	-
Publishing date	May 24, 2022
EPD valid until	May 24, 2027

PRODUCT INFORMATION

PRODUCT DESCRIPTION

The products are water-borne, one-component fast drying alkyd modified acrylic paint with special anti-corrosive pigments intended for industrial use.

PRODUCT APPLICATION

The products are designed to be used as a direct to metal paint, thus providing a high-quality and fast finish for the most demanding customers. The product is used for industrial painting of metals. The application method is spraying. The typical customer is a producer of steel constructions, containers, ACE and heavy vehicle equipment and parts or interior steel objects.

TECHNICAL SPECIFICATIONS

Use area: metal
Spreading rate: 5-10 m2/l
Gloss: semi gloss
Drying rate: touch dry in 1,5 hours, (at temperature +23°C and relative air humidity 50%).

PRODUCT STANDARDS

M1 noted for specific product.
MED (Marine Equipment Directive) noted for specific product

PHYSICAL PROPERTIES OF THE PRODUCT

Average physical properties for products covered by this EPD
- Weight solids 50 %wt
- Water content 46%wt
- Spec. gravity 1,2 kg/l
- VOC content <50 g/l

The individual physical properties of the products can be found in the technical data sheets on the different brand web pages: https://www.tikkurilagroup.com/brands

ADDITIONAL TECHNICAL INFORMATION

Further information can be found at www.tikkurilagroup.com

PRODUCT RAW MATERIAL COMPOSITION

Product and Packaging Material	Weight, kg	Post-consumer %	Renewable %	Country Region of origin
Binders*	0,8348	-	-	Europe
Water solvent	0,0693	-	-	Europe
Pigments	0,2219	-	-	Europe
Preservatives	0,0010	-	-	Europe
Thickeners*	0,0200	-	-	Europe
Other small	0,0431	-	-	Europe
Packaging	0,1533	-	10	Europe

* of which 0, 4843 is water

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metal compounds	19	Europe
Minerals	2	Europe
Fossil materials	32	Europe
water	46	Europe

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm). Safety data sheets are available on request from Tikkurila Group

PRODUCT LIFE-CYCLE

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The manufacturing process of paint at Vantaa consists of four distinct steps. Two steps for the production of paint and two for the packaging of the product. First is pre-mixing, where Water, powders (pigments, fillers, and thickeners), additives and sometimes binders are dispersed in a dissolver to a smooth paint paste. The second step is finishing the paint, where Binders, water, additives including any tinting pastes are mixed with the paint paste to a ready-to use paint. The last two steps include the canning of the paint and loading to pallets. The paint is filled in cans of various sizes in filling machines and then loaded to pallets by robots. The full pallets are moved to a warehouse within the site. Eventually, the paint is moved out and transported to the construction site.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is defined according to RTS PCR. Average distance of transportation from production plant to building site is assumed as 442 km and the transportation method is assumed to be lorry. Transportation does not cause losses as product are packaged properly.

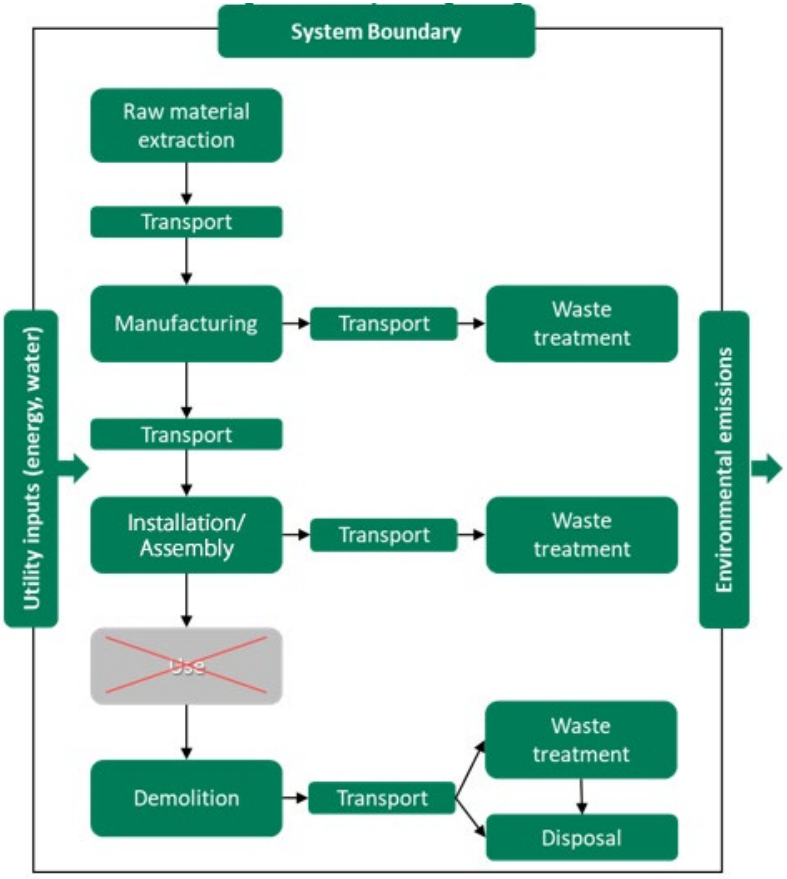
PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied.

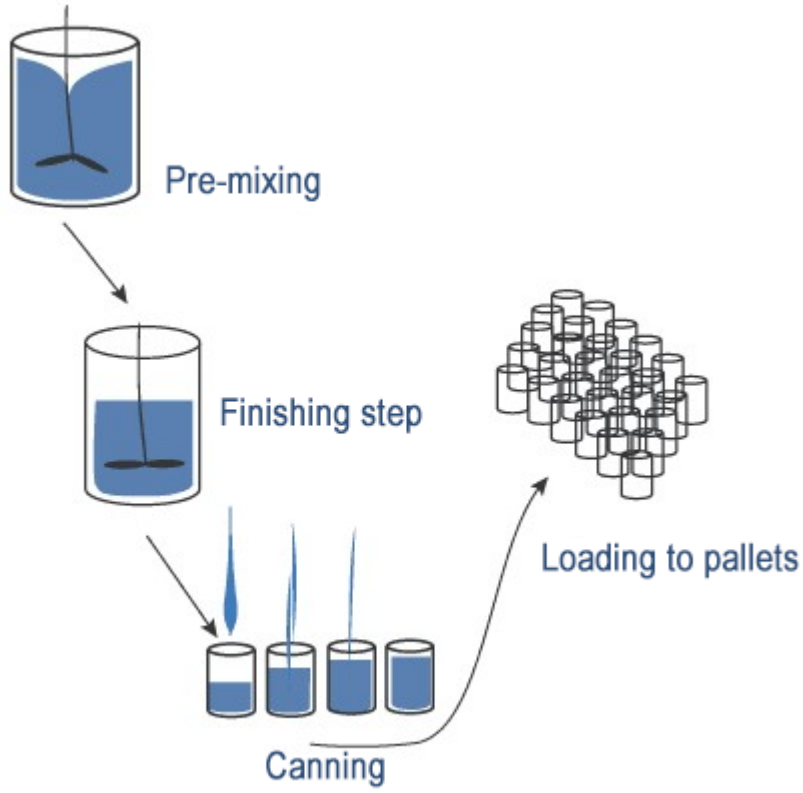
PRODUCT END OF LIFE (C1-C4, D)

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed zero (C1). All of end-of-life product is assumed to be sent to the closest facilities (C2). The heating value of dried paint is assumed negligible so the paint going to incineration is considered in final disposal (C3). About 94% of paint is assumed to be disposed of by incineration. The remaining 6% of paint is taken to landfill for final disposal (C4). The heating value of dried paint is assumed negligible. (D).

LIFE CYCLE STAGES DIAGRAM



MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

LIFE-CYCLE ASSESSMENT INFORMATION

Period for data	Calendar year 2019

DECLARED AND FUNCTIONAL UNIT

Declared unit	1 litre of paint
Mass per declared unit	1,2 kg

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0,0045

SYSTEM BOUNDARY

This EPD covers the *cradle to gate* scope with following modules; A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing), A4 (Transport), A5 (Assembly) as well as C1 (Deconstruction), C2 (Transport at end-of-life), C3 (Waste processing) and C4 (Disposal). In addition, module D - benefits and loads beyond the system boundary is included.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x	x	x
Geography, by two-letter ISO country code or regions. The International EPD System only.																		
EU	EU	EU	EU	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019 and the applied PCR. The study does not exclude any hazardous materials or substances.

The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass. The life cycle analysis includes all industrial processes from raw material acquisition to production, distribution, and end-of-life stages.

For easier modelling and because of lack of accuracy in available modelling resources many constituents under 0,5% of product mass are excluded. These include preservatives and biocides which are all present in the product only in very small amounts and have no serious impact on the emissions of the product.
The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy, and water use related to company management and sales activities are excluded.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation.

In this study, as per EN 15804, allocation is conducted in the following order;

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g. mass, volume) when the difference in revenue is small.

3. Allocation should be based on economic values.

As it is impossible to collect ancillary material, energy, and waste consumption data separately for each product produced the in the plant, data is allocated. Allocation is based on annual production rate and made with high accuracy and precision.

The values for 1 litre of the product which is used within this study is calculated by considering the total annual production. In the factory, several kinds of paints are produced; since the production processes of these products are similar, the annual production percentages are taken into consideration for allocation. Even if the formulations have some changes, all processes are same for all of the products produced in the plant. Therefore, energy consumption and waste streams are assumed to be the same for all types of products.

According to the ratio of the annual production of the declared product to the total annual production at the factory, the annual total energy consumption, packaging materials and the generated waste per the declared product are allocated. Subsequently, the product output fixed to 1 litre of paint the corresponding amount of product is used in the calculations.

This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs. All estimations and assumptions are given below:

- Module A4: The transportation distance is defined according to RTS PCR. It was assumed that typical installation place is situated in the region of the production plant. Average distance of transportation from production plant to building site is equal to 179 km. Transportation method is assumed to be lorry. The transportation doesn't cause losses as products are packaged properly. Also, volume capacity utilisation factor is assumed to be 1 for the nested packaged products.

- Module C1: Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed zero (C1)

• Module C2: It is estimated that the product loses some of its mass as the solvents of the paint evaporate during use. It is assumed that all the solvents in the paint have been released. All of the end-of-life product is assumed to be sent to the closest facilities such as recycling and landfill. Transportation distance to the closest disposal area is assumed to be 50 km and the transportation method is assumed as lorry which is the most common.

• Module A2, A4 & C2: Vehicle capacity utilization volume factor is assumed to be 1 which means full load. In reality, it may vary but as role of transportation emission in total results is small and so the variety in load assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by transportation company to serve needs of other clients.

• Module C3: The heating value of dried paint is assumed negligible so the paint going to incineration is considered in final disposal (C4).

• Module C4: All the paint waste is gathered as a part of another product and is generally not separated from it at the end of life. It is assumed that the paint follows said product to waste treatment and is treated similarly. As the paints covered by this EPD are paints for metal surfaces, the end of life scenario is the same as for metal plates and objects, for which about 84 % is recycled, 10 % is reused and 6 % is taken to landfill for final disposal. For the percentage that is recycled and reused, it is assumed the paint is burned away beforehand, it is assumed that 94% is incinerated and 6% is taken to landfill.

• Module D: The heating value of dried paint is assumed negligible.

Allocation used in Ecoinvent 3.6 environmental data sources follows the methodology 'allocation, cut-off by classification'. This methodology is in line with the requirements of the EN 15804 - standard.

AVERAGES AND VARIABILITY

This is an average EPD. The GWP-total indicator of each individual product does not differ more than ±10%.

ENVIRONMENTAL IMPACT DATA

Note: additional environmental impact data may be presented in annexes.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,22E0	9,63E-2	7,74E-1	3,09E0	3,16E-2	2,38E-2	MND	MND	MND	MND	MND	MND	MND	0E0	3,94E-3	0E0	1,34E0	0E0
GWP – fossil	kg CO_2e	2,1E0	9,63E-2	7,79E-1	2,98E0	3,19E-2	2,99E-2	MND	MND	MND	MND	MND	MND	MND	0E0	3,94E-3	0E0	1,34E0	0E0
GWP – biogenic	kg CO_2e	1,18E-1	3,42E-5	-5,43E-3	1,12E-1	1,44E-5	-6,09E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1,78E-6	0E0	5,76E-5	0E0
GWP – LULUC	kg CO_2e	1,15E-3	4,15E-5	5,37E-4	1,73E-3	1,17E-5	4,44E-6	MND	MND	MND	MND	MND	MND	MND	0E0	1,45E-6	0E0	2,72E-6	0E0
Ozone depletion pot.	kg CFC_{-11}e	2,7E-7	2,13E-8	3,62E-8	3,27E-7	7E-9	7,88E-10	MND	MND	MND	MND	MND	MND	MND	0E0	8,64E-10	0E0	1,36E-9	0E0
Acidification potential	mol H^+e	3,5E-2	1,28E-3	4,28E-3	4,06E-2	1,33E-4	4,96E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,65E-5	0E0	1,21E-4	0E0
EP-freshwater[3)]	kg Pe	2,53E-3	6,93E-7	2,92E-5	2,56E-3	3,18E-7	2,44E-7	MND	MND	MND	MND	MND	MND	MND	0E0	3,93E-8	0E0	1,6E-7	0E0
EP-marine	kg Ne	3,41E-3	3,32E-4	7,29E-4	4,47E-3	3,87E-5	1,3E-5	MND	MND	MND	MND	MND	MND	MND	0E0	4,78E-6	0E0	5,36E-5	0E0
EP-terrestrial	mol Ne	2,44E-2	3,69E-3	8,17E-3	3,63E-2	4,28E-4	1,44E-4	MND	MND	MND	MND	MND	MND	MND	0E0	5,28E-5	0E0	5,93E-4	0E0
POCP ("smog")	kg NMVOCe	9,33E-3	1E-3	3,44E-3	1,38E-2	1,34E-4	4,12E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,65E-5	0E0	1,48E-4	0E0
ADP-minerals & metals	kg Sbe	4,91E-5	1,67E-6	2,08E-5	7,16E-5	7,75E-7	2,08E-7	MND	MND	MND	MND	MND	MND	MND	0E0	9,57E-8	0E0	1,17E-7	0E0
ADP-fossil resources	MJ	3,99E1	1,4E0	8,25E0	4,95E1	4,76E-1	7,03E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,88E-2	0E0	1,23E-1	0E0
Water use[2)]	m^3e depr.	2,04E0	4,43E-3	6,78E-1	2,73E0	1,97E-3	8,9E-4	MND	MND	MND	MND	MND	MND	MND	0E0	2,43E-4	0E0	7,65E-4	0E0

1) GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,2E-7	6,27E-9	5,75E-8	1,83E-7	2,43E-9	7,26E-10	MND	MND	MND	MND	MND	MND	MND	0E0	2,99E-10	0E0	1,01E-9	0E0
Ionizing radiation[5)]	kBq U235e	7,81E-2	6,06E-3	1,81E-2	1,02E-1	1,99E-3	3,21E-4	MND	MND	MND	MND	MND	MND	MND	0E0	2,45E-4	0E0	2,76E-4	0E0
Ecotoxicity (freshwater)	CTUe	4,58E1	1,03E0	2,35E1	7,03E1	4,07E-1	2,33E-1	MND	MND	MND	MND	MND	MND	MND	0E0	5,02E-2	0E0	3,65E-1	0E0
Human toxicity, cancer	CTUh	3,9E-8	3,77E-11	9,81E-9	4,89E-8	1,06E-11	1E-11	MND	MND	MND	MND	MND	MND	MND	0E0	1,31E-12	0E0	1,71E-9	0E0
Human tox. non-cancer	CTUh	3,26E-7	1,1E-9	3,22E-8	3,6E-7	4,3E-10	2,91E-10	MND	MND	MND	MND	MND	MND	MND	0E0	5,31E-11	0E0	5,24E-9	0E0
SQP	-	4,41E0	1,26E0	1,94E0	7,61E0	5,23E-1	4,1E-2	MND	MND	MND	MND	MND	MND	MND	0E0	6,46E-2	0E0	7,68E-2	0E0

4) SQP = Land use related impacts/soil quality. 5) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,41E0	1,6E-2	3,16E0	5,58E0	5,46E-3	7,34E-3	MND	MND	MND	MND	MND	MND	MND	0E0	6,75E-4	0E0	3,38E-3	0E0
Renew. PER as material	MJ	0E0	0E0	2,17E-1	2,17E-1	0E0	-7,26E-2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	2,41E0	1,6E-2	3,37E0	5,8E0	5,46E-3	-6,52E-2	MND	MND	MND	MND	MND	MND	MND	0E0	6,75E-4	0E0	3,38E-3	0E0
Non-re. PER as energy	MJ	2,97E1	1,4E0	7,5E0	3,86E1	4,76E-1	7,03E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,88E-2	0E0	1,23E-1	0E0
Non-re. PER as material	MJ	0E0	0E0	7,55E-1	7,55E-1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	2,97E1	1,4E0	8,25E0	3,93E1	4,76E-1	7,03E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,88E-2	0E0	1,23E-1	0E0
Secondary materials	kg	3,9E-2	0E0	2,31E-2	6,21E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	3,17E-2	2,33E-4	4,54E-3	3,65E-2	9,08E-5	2,97E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,12E-5	0E0	3,77E-4	0E0

6) PER = Primary energy resources

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,63E-1	1,48E-3	5,87E-1	8,52E-1	6,27E-4	4,47E-4	MND	MND	MND	MND	MND	MND	MND	0E0	7,74E-5	0E0	1,75E-2	0E0
Non-hazardous waste	kg	3,57E0	9,95E-2	1,39E0	5,06E0	4,24E-2	3,06E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,24E-3	0E0	5,77E-1	0E0
Radioactive waste	kg	6,97E-5	9,62E-6	1,65E-5	9,57E-5	3,15E-6	4,04E-7	MND	MND	MND	MND	MND	MND	MND	0E0	3,89E-7	0E0	3,69E-7	0E0

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1,64E-2	1,64E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	4,02E-2	4,02E-2	0E0	9,2E-3	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,86E0	8,08E-2	6,5E-1	2,6E0	2,68E-2	2E-2	MND	MND	MND	MND	MND	MND	MND	0E0	3,3E-3	0E0	1,13E0	0E0
ADP-minerals & metals	kg Sbe	4,12E-5	1,4E-6	1,75E-5	6,01E-5	6,5E-7	1,75E-7	MND	MND	MND	MND	MND	MND	MND	0E0	8,03E-8	0E0	9,82E-8	0E0
ADP-fossil	MJ	3,35E1	1,17E0	6,92E0	4,16E1	3,99E-1	5,9E-2	MND	MND	MND	MND	MND	MND	MND	0E0	4,93E-2	0E0	1,03E-1	0E0
Water use	m^3e depr.	1,72E0	3,72E-3	5,69E-1	2,29E0	1,65E-3	7,46E-4	MND	MND	MND	MND	MND	MND	MND	0E0	2,04E-4	0E0	6,42E-4	0E0
Secondary materials	kg	3,27E-2	0E0	1,94E-2	5,21E-2	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Biog. C in product	kg C	N/A	N/A	0E0	0E0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kg C	N/A	N/A	3,78E-3	3,78E-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7) Biog. C in product = Biogenic carbon content in product

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity production, Finland
Electricity CO_2e / kWh	0.0165
District heating data source and quality	District heat, Finland
District heating CO_2e / kWh	0.01116

Transport scenario documentation (A4)

Scenario parameter	Value
Specific transport CO_2e emissions, kg CO_2e / tkm	0.0929
Average transport distance, km	179
Capacity utilization (including empty return) %	100
Bulk density of transported products	1200
Volume capacity utilization factor	1

End of life scenario documentation

Scenario parameter	Value
Collection process – kg collected separately	
Collection process – kg collected with mixed waste	0,5945
Recovery process – kg for re-use	-
Recovery process – kg for recycling	-
Recovery process – kg for energy recovery	-
Disposal (total) – kg for final deposition	0,5945
Scenario assumptions e.g. transportation	End-of-life product is transported 50 km with an average lorry.

BIBLIOGRAPHY

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations. Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

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Ecoinvent database v3.6 (2019) and One Click LCA database.

EN 15804:2012+A2:2019 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

RTS PCR (English version, 26.8.2020)

Fontecryl SC 50, Fontecryl SC-EF 50 LCA background report 07.04.2022

ABOUT THE MANUFACTURER

Tikkurila offers a broad range of decorative paints for consumers and professionals for surface protection and decoration. The product offering includes, among others, interior paints, lacquers, and effect products, exterior products for wood, masonry, and metal surfaces, as well as services related to painting. In addition, Tikkurila produces paints and coatings for the metal and wood industries.

EPD AUTHOR AND CONTRIBUTORS

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EPD author	Minna Ervasti, Tikkurila Oyj, 01300 Vantaa, Finland
EPD verifier	Silvia Vilčeková, Silcert, s.r.o
EPD program operator	The Building Information Foundation RTS sr
Background data	This EPD is based on Ecoinvent 3.6 (cut-off) and One Click LCA databases.
LCA software	The LCA and EPD have been created using One Click LCA Pre-Verified EPD Generator for

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with EN 15804, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The background report (project report) for this EPD

Why does verification transparency matter? Read more online.

VERIFICATION OVERVIEW

Following independent third party has verified this specific EPD:

EPD verification information	Answer
Independent EPD verifier	Silvia Vilčeková, Silcert, s.r.o
EPD verification started on	10.05.2022
EPD verification completed on	23.05.2022
Approver of the EPD verifier	The Building Information Foundation RTS sr

Author & tool verification	Answer
EPD author	Minna Perttu, Tikkurila Oyj,
EPD author training completion	07.09. 2020
EPD Generator module	Paints, Coatings, Sealants and
Independent software verifier	Anni Oviir, Rangi Maja OÜ

Software verification date	25.09. 2020

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of

- the data collected and used in the LCA calculations,
- the way the LCA-based calculations have been carried out,
- the presentation of environmental data in the EPD, and
- other additional environmental information, as present

with respect to the procedural and methodological requirements in ISO 14025:2010 and EN 15804:2012+A2:2019.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification. I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

ANNEX 1 : ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	2,04E0	9,55E-2	7,55E-1	2,89E0	3,16E-2	3,01E-2	MND	MND	MND	MND	MND	MND	MND	0E0	3,9E-3	0E0	1,34E0	0E0
Ozone depletion Pot.	kg CFC_{-11}e	2,55E-7	1,69E-8	3,11E-8	3,03E-7	5,56E-9	6,55E-10	MND	MND	MND	MND	MND	MND	MND	0E0	6,87E-10	0E0	1,2E-9	0E0
Acidification	kg SO_2e	3,74E-2	9,46E-4	3,51E-3	4,19E-2	9,68E-5	3,14E-5	MND	MND	MND	MND	MND	MND	MND	0E0	1,2E-5	0E0	8,41E-5	0E0
Eutrophication	kg PO_4^3e	5,16E-3	1,2E-4	1,18E-3	6,46E-3	2,22E-5	8,52E-5	MND	MND	MND	MND	MND	MND	MND	0E0	2,74E-6	0E0	2,36E-4	0E0
POCP (“smog”)	kg C_2H_4e	1,94E-3	2,93E-5	3,02E-4	2,27E-3	4,19E-6	2,31E-6	MND	MND	MND	MND	MND	MND	MND	0E0	5,17E-7	0E0	2,98E-6	0E0
ADP-elements	kg Sbe	4,91E-5	1,67E-6	2,08E-5	7,16E-5	7,75E-7	2,08E-7	MND	MND	MND	MND	MND	MND	MND	0E0	9,57E-8	0E0	1,17E-7	0E0
ADP-fossil	MJ	3,99E1	1,4E0	8,25E0	4,95E1	4,76E-1	7,03E-2	MND	MND	MND	MND	MND	MND	MND	0E0	5,88E-2	0E0	1,23E-1	0E0