ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-OYS-20210252-IBA1-EN
Issue date	27.11.2021
Valid to	26.11.2026

Vinyplan 6813ECO

Oy Scantarp Ab

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1. General Information

Oy Scantarp Ab

Programme holder
IBU – Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number
EPD-OYS-20210252-IBA1-EN

This declaration is based on the product category rules:
Technical Textiles, 01.2019
(PCR checked and approved by the SVR)

Issue date
27.11.2021

Valid to
26.11.2026

Dipl. Ing. Hans Peters
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.))

Vinyplan 6813ECO

Owner of the declaration
Oy Scantarp Ab
Lukkosalmentie 4
70420 Kuopio
Finland

Declared product / declared unit
Vinyplan 6813ECO / 1 m^2

Scope:
This EPD describes Vinyplan 6813ECO, a technical fabric manufactured by Oy Scantarp Ab in Kuopio, Finland.

The declared product is a fully airtight recycled polyethylene terephthalate - recycled polyvinyl chloride (rPET-rPVC) based technical textile. The base fabric is composed of high tenacity, low shrinkage, multifilament polyester yarns made from recycled PET bottles.

EPD type is cradle-to-gate with modules C1-C4 and D. The EPD is created based on the background report including a study compiled for this product.

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

The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data according to *ISO 14025:2010*
☐ internally ☒ externally

Matthias Klingler
(Independent verifier)

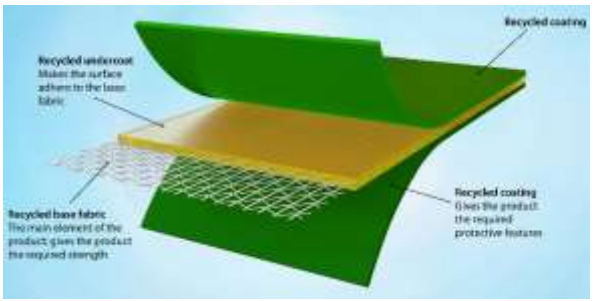
2. Product

2.1 Product description/Product definition

The declared product is a recycled polyethylene terephthalate – recycled polyvinyl chloride (rPET-rPVC) based technical textile. The base fabric is composed of high tenacity, low shrinkage, multifilament polyester yarns made out of recycled PET bottles. The product is coated symmetrically on both sides by 2 layers of coating, which include ab adhesion layer made out of recycled PVC plastisol and a main coating made out of recycled PVC dry blend with several additives.

Vinyplan 6813ECO consists of best performance *REACH* compliant chemicals. Due to the calendering processing technique, the declared product is fully airtight. The declared product weighs 620 g/m^2.

For the use and application of the product, the respective national provisions at the place of use apply, in Germany for example the building codes of the federal states and the corresponding national specifications.



2.2 Application

The main area of application for 6813ECO is predominantly tarps.

2.3 Technical Data

Performance data of the product with respect to its characteristics in accordance with the relevant technical provision (no CE-marking).

Technical specifications for Vinyplan 6813ECO

Name	Value	Unit
Yarn count DIN EN 1049-2	6 x 7	Yarn count /cm
Linear density of yarns DIN ISO 2060	1100	dtex
Grammage DIN EN ISO 2286-1	620	g/m^2
Tensile strength (warp/weft) DIN EN ISO 1421-1	2200 2300	N/50mm
Tearing strength (warp/weft) DIN 53363	220 210	N
Temperature resistance (cold) DIN EN 1876-1	-35	°C
Temperature resistance (hot)	+70	°C

2.4 Delivery status

The following table includes minimum and maximum dimensions for the product supplied worldwide. Some of the combinations for sizes may not be available.

	Min value	Max Value	Unit
Width	2	205	cm
Length	6000	50000	cm

For updated information on available dimensions, please contact sales@scantarp.fi

2.5 Base materials/Ancillary materials

The product is composed of 75-76 % of recycled PVC and 24-25 % of recycled polyester.

This product/article/at least one partial article contains substances listed in the *candidate list* (date:16.04.2021) exceeding 0.1 percentage by mass: no.

This product/article/at least one partial article contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the *candidate list*, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) *Ordinance on Biocide Products* No. 528/2012): yes.

According to the *EU Biocidal Products Regulation* (528/2012) is informed that this product contains the biocidal product dichloro n-octyl isothiazolinone (DCOIT) CAS: 64359-81-5, an antifungal additive, used to help maintain appearance, physical properties and prolong the service life of this product as before. The biocide product used contains also di-isononylphthalate CAS: 68515-48-0.

2.6 Manufacture

The manufacturing begins with the preparation of plastisol containing internally recycled PVC plastisol, PVC and additives. Plastisol is used as the first coating on the recycled base polyester fabric. Dry blend containing internally recycled dry blend, PVC and additives is prepared, melted, extruded and hot pressed into sheet, which is then calendered on the fabric. The fabric is calendered twice, once on both sides.

About 3 % of raw material mass ends up as manufacturing rejects, which are landfilled.

The sales, marketing and production of this product have been certified according to the following standard:

ISO 9001

2.7 Environment and health during manufacturing

Health protection: All production employees are trained to work with chemicals. Safety clothes and safety devices are provided. Regular health checks are mandatory for all employees. The occupational exposure limit for plasticizers is measured and values are within the compulsory safety levels. The extensive health care program is available to all employees.

Production waste: The waste streams from manufacturing are sorted and most of the chemical wastes are recycled in their own production. Only the PVC coated fabric rejects will be sent to landfill.

Emissions into air: Waste air generated during production is cleaned in accordance with regulatory requirements. Emissions must comply with the values specified by the operation licenses of the site.

Emissions into water/soil: No normal process contamination of water or soil exists. The production process of coated fabrics does not have any production-related wastewater.

Noise: The measurements of noise level are performed and the results are within the compulsory safety levels. Use of ear protection is required in the production area.

The environmental management system has been certified according to the following standard:

ISO 14001

2.8 Product processing/Installation

Due to Vinyplan 6813ECO being an intermediate product used in many different end products, no specific description or guidance is given, as the installation stage only applies for the specific end product.

2.9 Packaging

The product is packaged using wooden pallets, residual PVC coated fabric, paperboard roll cores and plastic film and straps. The packaging is not product packaging per se, but coverage for transport. Wooden pallets may be reused or refurbished. Paperboard roll cores may be directed to cardboard recycling and plastic may be directed to recycling of energy recovery.

2.10 Condition of use
Any harmful effects to the environment are not known. The mechanical destruction of the declared product does not alter the chemical composition.

Regarding the emissions to soil and water, no test results are available.

2.11 Environment and health during use
No specific hazards are known in normal use. Decomposition of the product begins at about 150 ºC by long term heating and the decomposition of hazardous products as hydrogen chloride may occur.

Aerosols and solid particles may occur during heating and high frequency welding.

By heating over 150 ºC vapours may irritate eyes and lungs, may cause headache. Skin irritation and eczema may occur. Use of long sleeve work wear is recommended.

The declared product is not biodegradable and not soluble in water.

2.12 Reference service life
Due to the wide range of applications of Vinyplan 6813ECO and to the exclusion of module B, no reference service life is declared.

2.13 Extraordinary effects

Fire
The declared product is not classified according to fire retardant standards.

Water
The declared product is suitable for outdoor use. The product has good weather resistance properties. The declared product is not biodegradable and not soluble in water.

Mechanical destruction
The mechanical destruction of the declared product does not alter the chemical composition.

2.14 Re-use phase
It is assumed that the end product, of which Vinyplan 6813ECO is a part of, is not reused or recovered as material.

2.15 Disposal
Incineration with energy recovery is assumed to be the most plausible end-of-life scenario for Vinyplan 6813ECO. Landfilling is considered in an alternative scenario, in the case the product ends up disposed of. As a non-hazardous plastic product used in construction, the waste code of Vinyplan 6813ECO according to *European Waste Catalogue* is 17 02 03.

2.16 Further information
For further information, e.g. datasheets, please contact sales@scantarp.fi

3. LCA: Calculation rules

3.1 Declared Unit
The declared unit for Vinyplan 6813ECO is 1 m^2 of fabric. The conversion factor to mass per declared unit is 0.62 kg/m^2.

Declared unit

Name	Value	Unit
Declared unit	1	m^2
Conversion factor to 1 kg	0.62	-

3.2 System boundary
The type of the EPD is cradle to gate with options: including modules A1-A3, C1-C4 and D. The declared life cycle stages and accompanying processes are listed below:

A1-A3:
- A1: Production of raw materials.
- A2: Transport of raw materials and packaging materials to the manufacturer.
- A3: Production of packaging materials, fuels, energy and water.
- A3: Manufacturing process and emissions from fuels, energy and processing.
- A3: Transport and treatment of wastes.

C1-C4:
- C1: Deconstruction of the product from building.
- C2: Transport of used product to end-of-life treatment.
- C4/1: Incineration with energy recovery.
- C4/2 (alternative scenario): Landfill disposal.

D:
- Credits acquired from material and energy recovery across the product system.

3.3 Estimates and assumptions
Flows relating to infrastructure, employee commute, capital equipment and auxiliary electricity consumption are excluded. Biogenic carbon in the product is assumed to be completely released in landfill. Commercial one-way transports are considered. The product is assumed to not require waste processing or sorting activities in module C3.

3.4 Cut-off criteria
Mass- and energy-based cut-off criteria are adhered to. Flows accounting for less than 1 % of the overall input mass or energy flows in each model are excluded from the study if appropriate LCI data or even proxy data are not available. Additionally, the sum of excluded flows does not exceed 5 % of the total inflows (by mass or by energy) of each module.

3.5 Background data
Secondary data from *GaBi* Professional and *Ecoinvent* databases and literature are used in modelling. Wherever possible, data from *GaBi* are prioritised over data from *Ecoinvent*. As principle, secondary data with

a maximum of 10 years were used in the modelling when available.

3.6 Data quality

The best available generic datasets are used for every unit process. In addition to geographical, technical and time representativeness assessment, other data quality-related viewpoints were considered when choosing the modelling data for upstream and downstream processes.

The precision of the data used is as accurate as possible. Primary data are precise, but secondary data, such as data from the databases and literature, may contain broad uncertainties. Data approximations correspond to 0.8 % of raw material mass of Vinyplan 6813ECO.

3.7 Period under review

The primary data from the manufacturer were mainly collected in 2020 and electricity consumption was measured in 2021. Used data represent the manufacturing in Kuopio in 2020.

3.8 Allocation

As a principle, allocation is avoided whenever possible. When allocation is applied, it is ensured that there is no double-counting or omissions, and all the environmental impacts are allocated to either product or co-products.

The consumption of fuel for heating and the use of cooling water are equally allocated between all products at the manufacturer based on their annual production volumes.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

GaBi Professional database 2020 and *Ecoinvent* 3.6 database were used in the modelling. *GaBi* database is used wherever possible, and *Ecoinvent* database is used to fill the remaining data gaps.

4. LCA: Scenarios and additional technical information

Characteristic product properties
Information on biogenic Carbon

Biogenic carbon content of the product and packaging are shown in the table below. Few additives in Vinyplan 6813ECO are biogenic. Packaging materials contain paperboard and wooden materials. The mass of packaging containing biogenic carbon is 0.03 kg/m2.

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic Carbon Content in product	0.004	kg C
Biogenic Carbon Content in accompanying packaging	0.01	kg C

Vinyplan 6813ECO is an intermediate product and therefore the transport of the product to an intermediate user is declared as a technical scenario for module A4.

Transport to intermediate user (technical scenario for A4)

Name	Value	Unit
Average road transport distance	360	km
Average ship transport distance	48	km

Since the use of packaging material is declared in module A3, the end-of-life of packaging materials is declared as the technical scenario for module A5. Material loss is not considered in the technical scenario for A5, since it only deals with the end-of-life of packaging materials at intermediate user and installation activities do not take place.

Packaging end-of-life (technical scenario for A5)

Name	Value	Unit
Material loss	0	kg
Packaging materials to recycling	9.8	g/m2
Packaging materials to energy recovery	21.0	g/m2

End of life (C1-C4)

Name	Value	Unit
Collected separately waste type	0.62	kg
Collected as mixed construction waste	-	kg
Reuse	-	kg
Recycling	-	kg
Energy recovery (scenario C4/1)	0.62	kg
Landfilling (scenario C4/2)	0.62	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Materials for recycling	12.8	g/m2
Materials for energy recovery	21.6	g/m2

5. LCA: Results

Note: Results for modules A4 and A5 are for the technical scenarios for the respective modules, see section 4.

Disclaimer:
EP-freshwater: This indicator has been calculated as “kg P eq” as required in the characterization model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml).

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	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	X	ND	ND	MNR	MNR	MNR	ND	ND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m2 Vinyplan 6813ECO

Core Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4/1	C4/2	D
GWP-total	[kg CO_2-Eq.]	7.45E-1	3.93E-2	6.41E-1	2.00E-2	4.85E-2	3.82E-4	6.77E-3	0.00E+0	1.56E+0	4.44E-2	-4.15E-1
GWP-fossil	[kg CO_2-Eq.]	7.39E-1	3.92E-2	6.81E-1	1.99E-2	1.37E-2	3.97E-4	6.73E-3	0.00E+0	1.56E+0	4.49E-2	-4.28E-1
GWP-biogenic	[kg CO_2-Eq.]	6.10E-3	1.97E-5	-4.03E-2	-3.30E-5	3.48E-2	-1.76E-5	-1.15E-5	0.00E+0	-5.25E-4	-5.25E-4	1.39E-2
GWP-luluc	[kg CO_2-Eq.]	4.96E-4	8.51E-5	1.18E-4	1.59E-4	3.61E-5	3.09E-6	5.46E-5	0.00E+0	2.51E-4	3.64E-5	-3.17E-4
ODP	[kg CFC11-Eq.]	4.46E-8	3.98E-18	3.99E-11	2.39E-18	9.95E-11	4.59E-20	8.11E-19	0.00E+0	1.89E-15	1.02E-16	-8.11E-10
AP	[mol H^+-Eq.]	3.49E-3	7.78E-4	1.40E-3	6.27E-5	1.94E-5	1.92E-6	1.89E-5	0.00E+0	3.96E-4	1.36E-4	-6.37E-4
EP-freshwater	[kg P-Eq.]	1.68E-4	3.82E-8	1.12E-6	5.97E-8	3.12E-7	1.16E-9	2.05E-8	0.00E+0	3.17E-7	8.20E-6	-2.52E-6
EP-marine	[kg N-Eq.]	9.35E-4	2.92E-4	3.68E-4	2.68E-5	4.27E-6	8.90E-7	8.28E-6	0.00E+0	1.29E-4	3.01E-5	-1.67E-4
EP-terrestrial	[mol N-Eq.]	7.77E-3	3.20E-3	3.99E-3	3.00E-4	5.45E-5	9.86E-6	9.31E-5	0.00E+0	1.62E-3	3.30E-4	-1.78E-3
POCP	[kg NMVOC-Eq.]	3.21E-3	7.88E-4	1.30E-3	5.70E-5	7.50E-4	2.50E-6	1.68E-5	0.00E+0	3.66E-4	9.81E-5	-4.79E-4
ADPE	[kg Sb-Eq.]	3.65E-6	1.49E-9	2.30E-7	1.42E-9	6.85E-7	2.74E-11	4.84E-10	0.00E+0	2.72E-8	3.03E-9	-1.95E-7
ADPF	[MJ]	1.13E+1	4.88E-1	1.21E+1	2.66E-1	5.05E-2	5.09E-3	8.98E-2	0.00E+0	2.31E+0	6.43E-1	-7.27E+0
WDP	[m^3 world-Eq deprived]	3.49E-1	1.45E-4	1.35E-2	1.76E-4	5.87E-3	3.41E-6	6.03E-5	0.00E+0	1.25E-1	-5.03E-4	-6.81E-2

Caption	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m2 Vinyplan 6813ECO

Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4/1	C4/2	D
PERE	[MJ]	4.46E-1	8.95E-3	4.04E-1	1.47E-2	3.25E-1	2.86E-4	5.05E-3	0.00E+0	6.91E-1	4.52E-2	-2.07E+0
PERM	[MJ]	2.74E-1	0.00E+0	4.05E-1	0.00E+0	-4.57E-1	0.00E+0	0.00E+0	0.00E+0	-2.14E-1	0.00E+0	0.00E+0
PERT	[MJ]	7.20E-1	8.95E-3	8.08E-1	1.47E-2	-1.32E-1	2.86E-4	5.05E-3	0.00E+0	4.77E-1	4.52E-2	-2.07E+0
PENRE	[MJ]	1.13E+1	4.88E-1	1.21E+1	2.66E-1	1.91E-1	5.09E-3	8.99E-2	0.00E+0	1.41E+1	6.43E-1	-7.27E+0
PENRM	[MJ]	1.22E+1	0.00E+0	1.14E-1	0.00E+0	-1.41E-1	0.00E+0	0.00E+0	0.00E+0	-1.18E+1	0.00E+0	0.00E+0
PENRT	[MJ]	2.35E+1	4.88E-1	1.22E+1	2.66E-1	5.06E-2	5.09E-3	8.99E-2	0.00E+0	2.31E+0	6.43E-1	-7.27E+0
SM	[kg]	6.05E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.28E-2
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m^3]	8.18E-3	1.11E-5	2.13E-3	1.70E-5	1.53E-4	3.31E-7	5.85E-6	0.00E+0	3.19E-3	7.90E-6	-2.38E-3

Caption	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 material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m2 Vinyplan 6813ECO

Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4/1	C4/2	D
HWD	[kg]	7.43E-12	6.50E-9	9.48E-9	1.22E-8	2.50E-10	2.37E-10	4.18E-9	0.00E+0	1.02E-8	2.35E-9	-2.87E-9
NHWD	[kg]	1.02E-3	5.70E-5	2.50E-2	4.05E-5	1.36E-3	7.79E-7	1.38E-5	0.00E+0	7.49E-1	1.24E+0	-3.32E-3
RWD	[kg]	6.06E-8	5.62E-7	1.78E-3	3.29E-7	5.69E-6	6.30E-9	1.11E-7	0.00E+0	7.47E-5	7.76E-6	-5.35E-4
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	3.07E-3	0.00E+0	9.76E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	2.54E-4	0.00E+0	1.77E-4	0.00E+0	0.00E+0	0.00E+0	6.20E-1	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	2.27E-3	0.00E+0	6.67E-2	0.00E+0	0.00E+0	0.00E+0	1.72E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	4.06E-3	0.00E+0	1.19E-1	0.00E+0	0.00E+0	0.00E+0	3.12E+0	0.00E+0	0.00E+0

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; EEE = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 m2 Vinyplan 6813ECO

Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4/1	C4/2	D
PM	[Disease Incidence]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
IRP	[kBq U235-Eq.]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETP-fw	[CTUe]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HTP-c	[CTUh]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HTP-nc	[CTUh]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SQP	[-]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

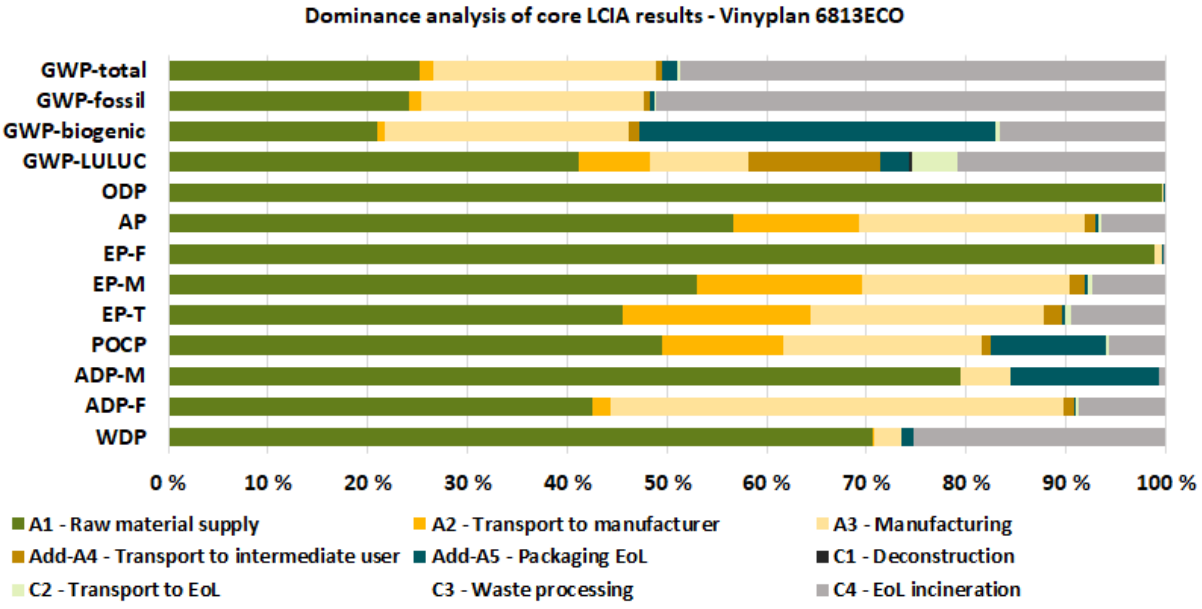
Caption	PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer for the indicators: “ADPF”, “ADPE”, “WDP”.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 experience with the indicators.

6. LCA: Interpretation

Dominance analysis is carried out for Vinyplan 6813ECO, illustrated in the figure below. The results of module D are excluded from the analysis.

Overall, stage A1 is the most relevant life cycle stage for Vinyplan 6813ECO, contributing 21.0-99.7 % to each impact category (54.4 % on average). Stage A1 is the most significant for most impact categories, especially ODP and EP-freshwater impacts. For ADPF stage A3 and for GWP-total and GWP-fossil stage C4 are the most relevant stages. Stage A3 is overall the second most relevant life cycle stage for Vinyplan 6813ECO, contributing 0.1-45.5 % to each impact category (16.9 % on average).



7. Requisite evidence

Relevant test results and evidence on the characteristics of Vinyplan 6813ECO product are declared in, for example, sections 2.3, 2.6-2.7, 2.9-2.10 and 2.13. Regarding the emissions to soil and water, no test results are available. Therefore, any harmful effects to the environment are not known.

7.1 VOC emissions

Vinyplan 6813ECO is an intermediate product, which is mainly used in outdoor applications. Therefore, volatile organic compound (VOC) emissions are not declared for this product.

7.2 Leaching

Leaching performance tests have not been carried out for Vinyplan 6813ECO and thus no test results are available on leaching and its potential environmental impacts.

8. References

Standards

DIN 53363
DIN 53363:2003. Determining the tear resistance of plastic film and sheeting by the trouser tear method.

DIN EN 1049-2
DIN EN 1049-2:1994. Determination of number of threads per unit length of textile woven fabrics; construction methods of analysis.

DIN EN 1876-1
DIN EN 1876-1:1997. Rubber or plastics coated fabrics - Low temperatures tests - Part 1: Bending test.

DIN EN ISO 1421-1
DIN EN ISO 1421-1:2016. Rubber- or plastics-coated fabrics - Determination of tensile strength and elongation at break.

DIN EN ISO 2286-1
DIN EN ISO 2286-1:2016. Rubber- or plastics-coated fabrics - Determination of roll characteristics - Part 1: Methods for determination of length, width and net mass.

DIN ISO 2060
DIN ISO 2060:1994. Textiles — Yarn from packages — Determination of linear density (mass per unit length) by the skein method.

EN 13501-1
EN 13501-1, Fire classification of construction products and building elements. Classification using data from reaction to fire tests.

EN 15804
EN 15804:2019+A2, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 9001
ISO 9001:2015, Quality management systems — Requirements.

ISO 14001
ISO 14001:2015, Environmental management systems — Requirements with guidance for use.

ISO 14025
DIN EN ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

Other sources

Candidate list
ECHA. Candidate List of substances of very high concern for Authorisation.

Ecoinvent database
Ecoinvent 3.6 database (cut-off).

EU Biocidal Products Regulation
REGULATION (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

European Waste Catalogue
European Waste Catalogue, by Commission Desicion 2000/532/EC.

GaBi database
GaBi Professional 2020 database.

IBU 2021
Institut Bauen und Umwelt e.V.: General Programme Instructions for the Preparation of EPDs at the Institut Bauen und Umwelt e.V. Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021. www.ibu-epd.com

PCR Part A+A2
Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019.

PCR Part B
Requirements on the EPD for Technical Textiles. Version 1.0, 2012.

REACH
REACH Annex XVII: Restricted Substances List.

Software
GaBi ts, Version 10.5.0.78. Leinfelden-Echterdingen: Sphera Solutions GmbH.

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