



**ENVIROMESH**<sup>®</sup>



## ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

### ENVIROMESH MP47 Macro Synthetic Fibres



**EPD HUB, HUB-5488**

Published on 22.02.2026, last updated on 22.02.2026, valid until 21.02.2031


Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Enviromesh
Address	L5, 4 Columbia Court, Norwest Business Park, NSW 2153 Australia
Contact details	enquiry@enviromeshfibres.com
Website	https://enviromeshfibres.com/

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Jason Chandler, EPD on Demand 
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	D.V, as an authorized verifier for EPD Hub

### PRODUCT

Product name	MP47 fibres
Place(s) of raw material origin	China
Place of production	Shanghai, China
Place(s) of installation and use	Australia, Global
Period for data	1 Jan 2023 – 31 Dec 2023
Averaging in EPD	No grouping
A1-A3 Specific data (%)	28,2

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1kg MP47 fibres
Declared unit mass	1,00 kg
Mass of packaging	0,04889 kg
GWP-fossil, A1-A3 (kgCO2e)	3,43
GWP-total, A1-A3 (kgCO2e)	3,41
Secondary material, inputs (%)	1,13
Secondary material, outputs (%)	2,35
Total energy use, A1-A3 (kWh)	15,7
Net freshwater use, A1-A3 (m3)	0,03

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

## MANUFACTURER AND PRODUCT

### ABOUT THE MANUFACTURER

#### Who We Are

Enviromesh is a service and solutions provider, utilising 100% recycled plastic macro synthetic fibres and other sustainable fibre alternatives for concrete reinforcement rather than using environmentally unfriendly, steel mesh.

Our sustainable fibre solutions for concrete reinforcement are used in a wide array of construction projects across a wide customer base. From large infrastructure projects of state governments and local councils to specific solutions for maritime and coastal projects, mining, concrete precasting, industrial and warehousing, Enviromesh has provided bespoke sustainable low-carbon concrete reinforcement solutions.

In addition to Australia and New Zealand, we also supply for projects in the Australia and NZ, Americas, Asia, Europe, and The Pacific Island Nations. With more than 30 years in the concrete reinforcement business, we are committed to sustainability and innovation and aligning our operations with the United Nations Sustainable Development Goals (UN SDGs) to create a positive impact on society and the environment.

#### How Do We Help Make a Difference

Unlike traditional suppliers, Enviromesh prioritises environmental responsibility by utilising recycled plastic materials in our products as well as fibres made from virgin materials that effectively replace steel mesh in concrete reinforcement for various suitable applications.

To replace steel mesh, we offer variety of fibres ranging from macro and micro synthetic fibres to steel fibres, providing durable and eco-friendly solutions for construction projects.

To help our clients replace steel mesh reinforcement, we provide end-to-end low carbon solutions for concrete which include:

- Supplying recycled synthetic fibres (made from 100% recycled plastic), virgin synthetic fibres and steel fibres as an alternate to steel mesh in concrete construction
- Supplying both standard and custom-made fibres to suit client project requirements
- Creating tailored solutions with the help of our fibre, concrete and engineering experts
- Providing engineering support for FRC precast, civil and land development
- Manufacturing at multiple locations and vast supply network enables us to deliver worldwide on time



**Low Carbon  
Steel Mesh  
Reinforcement  
Replacement**



**Concrete  
Construction  
Cost and Time  
Reduction**



**Solutions to  
Increase  
Safety and  
Productivity**

Further information can be found at:  
[www.enviromeshfibres.com](http://www.enviromeshfibres.com)

**PRODUCT DESCRIPTION**

MP47 fibres are made from 100% virgin polypropylene. These fibres show very defined ductile behaviour characteristics. They provide good impact, fatigue and shrinkage control in all types of concrete. They are easy to use in general purpose applications as slab on ground, precast products and toppings, and exhibit excellent post crack control (toughness) due to the positive mechanical anchorage.

Product Information	Deatils
Fibre	Macro synthetic
Fibre Type	Embossed
Composition	Polypropylene
Fibre Length	47 mm
Anchorage	Continuously deformed
Appearance	White
Thickness - Equivalent	< 0.5 mm
Tolerance	+ or - 5%
Minimum Tensile	650 MPa
Young's Modulus	13.0 GPa
Specific Gravity	0.92 g/cm <sup>3</sup>
Aspect Ratio	Greater than 80
Standard Dosage*	4 - 10 kg/m <sup>3</sup>
Fibres Per Kg	59,000 ± 1,000

Further information can be found at:

[www.enviromeshfibres.com](http://www.enviromeshfibres.com)

**PRODUCT RAW MATERIAL MAIN COMPOSITION**

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	100	China, Global
Bio-based materials	0	-

**BIOGENIC CARBON CONTENT**

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,00220
Biogenic carbon content in packaging, kg C	0,009027

**FUNCTIONAL UNIT AND SERVICE LIFE**

Declared unit	1kg MP47 fibres
Mass per declared unit	1,00 kg
Functional unit	-
Reference service life	-

**SUBSTANCES, REACH - VERY HIGH CONCERN**

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

## PRODUCT LIFE-CYCLE

### SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

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		
x	x	x	x	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = MNR

### 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.

A market-based approach is used in modelling the electricity mix utilised in the factory.

**A1** - 100% virgin polypropylene (PP) granulates are produced by a third-party (at a different locations), before they are transported for MP47 production.

**A2** – The PP granulates are trucked to the manufacturing factory. The granulates are sourced from two locations 15 and 100km from the MP47 manufacturing site.

**A3** - Once at the factory the virgin PP is first melted in an extruder before being pumped through a spinneret (a plate with many fine holes). As the polymer exits the spinneret, it forms continuous filaments that quickly solidify by cooling air. The filament is then mechanically stretched (drawn) between rollers at controlled speeds and temperatures to improve their tensile strength, elastic modulus and stability of shape. Cutting machines then cut the filament into 47mm lengths to produce the MP47 fibres.

The use of energy in manufacturing is calculated using reported electricity uses at the plant in calendar year 2023 allocated on a mass basis.

Electricity mix data used in this LCA study is based on country-specific datasets provided by OneClick LCA (2025 release), which in turn are derived from International Energy Agency (IEA) statistics. The data reflects national grid mixes for the reference year 2023. Source: OneClick LCA, “Electricity datasets based on IEA statistics,” 2025.

Of the total product GWP (A1-A3) of 3.41 kg CO<sub>2</sub>-eq, electricity use contributes 0.962 kg CO<sub>2</sub>-eq (28.2%).

Portions of the fibres are wrapped in polyethylene film and then placed in paper bags (3kg of product) which are stacked on a pallet and wrapped again in polyethylene film before a 'jumbo' bag is used to cover the entire pallet worth of material (160 bags or 480kg of product).

### **TRANSPORT AND INSTALLATION (A4-A5), PRODUCT USE AND MAINTENANCE (B1-B7)**

Transportation impacts that occurred from final product delivery to the construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The transport of the fibres is calculated based on an average sea distance between Shanghai Port and the 3 major capital cities along Australia's eastern coast with a further land transport distance added to take into account impacts from trucking the fibres from relevant port to the final use point. The trucking of fibres from manufacturing plant to the Shanghai Port is also accounted for.

This EPD does not cover the installation or use and maintenance phases.

Enviromesh has no control over either the installation phase (A5) or product use and maintenance phases (B1-B7). As there are too many scenarios where the fibres can be used, a suitable scenario could not be determined.

### **PRODUCT END OF LIFE (C1-C4, D)**

**C1** – When allocated by mass the eMesh fibres form 0.2% of the mass of concrete matrix. According to Ö. Bozdağ & M. Seçer in their paper Energy consumption of RC buildings during their life cycle an estimate for the diesel required in demolition and removal of reinforced concrete is 10kWh/m<sup>2</sup>. (NOTE: this is a conservative figure for concrete containing these fibres as it assumed conventional steel reinforcement and a structural building, neither

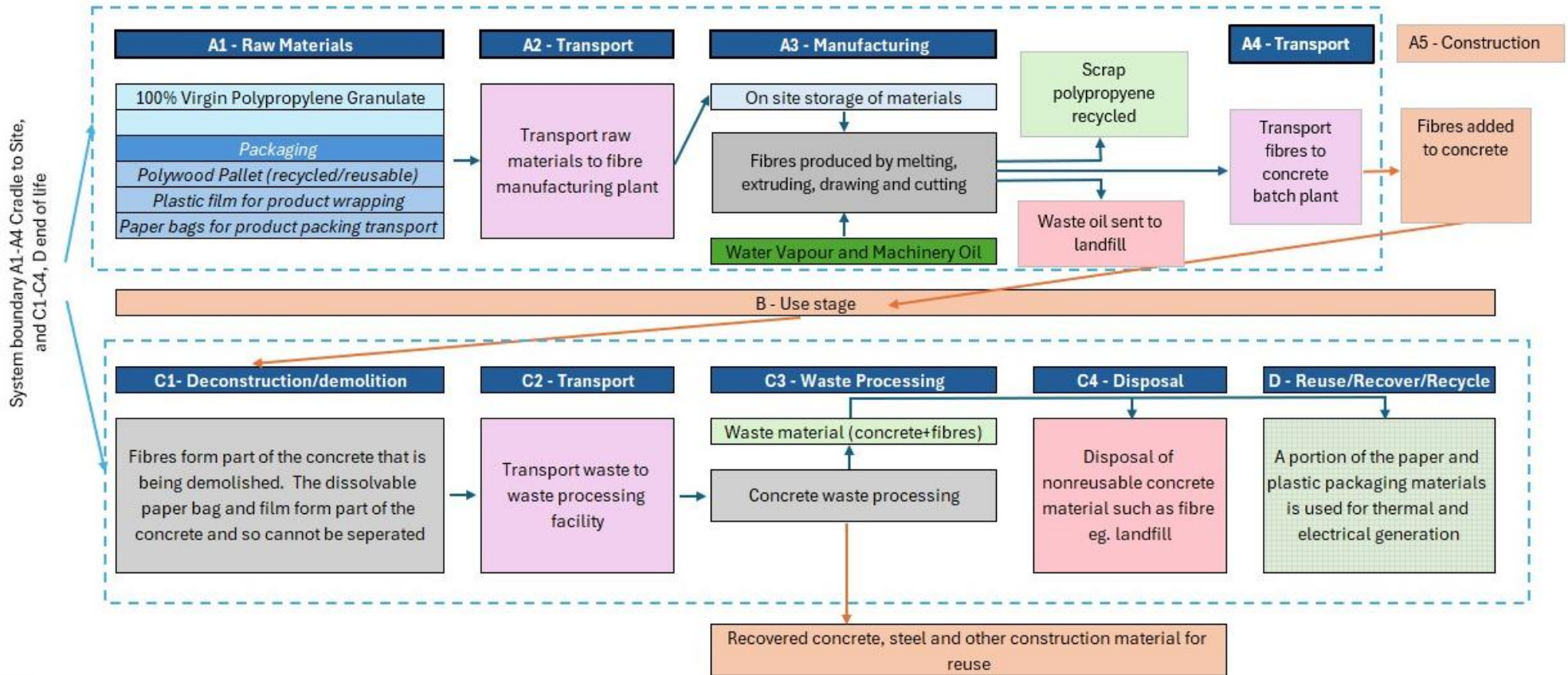
of which are valid when using these fibres). A typical slab thickness is estimated at 200mm and so converting this to cubic metres of concrete results in an energy requirement of 50kWh/m<sup>3</sup>. The dose rate of the eMesh fibre is typically 5kg per cubic metre and an estimate of the density of concrete in Australia is 2400kg per cubic metre (see Holcim concrete EPDs in Australia, for example EPD-IES-23426:001). Therefore the fibre takes up approximately 0.201% of the concrete on a mass basis. Total energy allocated to fibre in one cubic metre is 0.104kWh and so for the declared unit of 1kg of fibre the energy is 0.0202kWh.

**C2** – After demolition, waste concrete is sent to processing facilities where it is crushed and sorted. It is conservatively assumed that the fibre material will be sent to landfill.

**C3 and C4** - As packaging materials reach their end of life in the A5 stage during the manufacture of readymix concrete, and that module is not modelled in this document, all end-of-life impacts for packaging are assessed in C3 and C4. Packaging end-of-life modeling is based on pre-filled assumptions from Ecoinvent 3.11 database for paper and polyethylene packaging. The fibres themselves are conservatively assumed to be sent to landfill in C4.

**D** - A small amount of thermal and electrical energy production is considered beyond the system boundaries through the handling of the waste packaging materials. A small amount of polyethylene is assumed recycled to produce high density polyethylene.

**SYSTEM DIAGRAM**



## LIFE-CYCLE ASSESSMENT

### CUT-OFF CRITERIA

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.

Where possible (i.e. when data are available), all inputs and outputs to a process have been included. The study does not exclude any modules or processes which are stated mandatory in the reference standard 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. Very minor inputs such as ink used on packaging or unused/torn/defective waste packaging would represent far less than 1% of total mass and energy flows.

### VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product’s manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

### ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	Allocated by mass
Ancillary materials	Not applicable
Manufacturing energy and	Allocated by mass

### PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	Not applicable

This EPD is product and factory specific.

**LCA SOFTWARE AND BIBLIOGRAPHY**

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

## ENVIRONMENTAL IMPACT DATA

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

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	2,35E+00	4,64E-03	1,06E+00	3,41E+00	1,08E-01	7,32E-03	1,19E-02	4,86E-02	1,11E-01	-6,41E-02
GWP – fossil	kg CO <sub>2</sub> e	2,34E+00	4,64E-03	1,09E+00	3,43E+00	1,08E-01	7,32E-03	1,19E-02	1,94E-02	1,07E-01	-4,02E-02
GWP – biogenic	kg CO <sub>2</sub> e	8,05E-03	1,04E-06	-2,90E-02	-2,10E-02	1,79E-05	1,39E-06	2,62E-06	2,91E-02	4,22E-03	-2,40E-02
GWP – LULUC	kg CO <sub>2</sub> e	1,13E-03	2,08E-06	7,80E-04	1,91E-03	5,70E-05	7,49E-07	5,22E-06	9,16E-07	6,85E-06	6,90E-05
Ozone depletion pot.	kg CFC-11e	1,17E-07	6,85E-11	8,67E-09	1,26E-07	1,56E-09	1,09E-10	1,81E-10	7,33E-12	2,87E-10	-1,72E-09
Acidification potential	mol H <sup>+</sup> e	6,52E-03	1,58E-05	6,57E-03	1,31E-02	2,79E-03	6,54E-05	4,03E-05	5,84E-06	7,96E-05	-1,58E-04
EP-freshwater <sup>2)</sup>	kg Pe	3,71E-04	3,61E-07	2,53E-04	6,24E-04	4,07E-06	2,35E-07	9,14E-07	2,44E-07	1,19E-06	-2,00E-05
EP-marine	kg Ne	1,43E-03	5,20E-06	8,48E-04	2,28E-03	6,98E-04	3,04E-05	1,33E-05	3,21E-06	2,37E-04	-4,15E-05
EP-terrestrial	mol Ne	1,46E-02	5,66E-05	8,42E-03	2,31E-02	7,75E-03	3,33E-04	1,44E-04	2,28E-05	3,31E-04	-3,96E-04
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	1,27E-02	2,33E-05	2,68E-03	1,54E-02	2,13E-03	9,97E-05	5,97E-05	6,12E-06	1,42E-04	-2,33E-04
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,27E-05	1,29E-08	5,79E-07	1,33E-05	1,32E-07	2,63E-09	3,37E-08	7,61E-09	2,17E-08	-1,34E-07
ADP-fossil resources	MJ	7,81E+01	6,73E-02	1,35E+01	9,17E+01	1,35E+00	9,53E-02	1,72E-01	7,67E-03	2,53E-01	-1,20E+00
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	5,18E-01	3,33E-04	8,82E+00	9,34E+00	4,24E-03	2,45E-04	8,50E-04	6,74E-04	1,07E-02	2,62E-03

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) 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 experience with the indicator.

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Particulate matter	Incidence	4,51E-08	4,64E-10	1,35E-08	5,90E-08	4,23E-09	1,87E-09	1,17E-09	8,13E-11	1,83E-09	-7,25E-10
Ionizing radiation <sup>6)</sup>	kBq U235e	1,63E-01	5,86E-05	2,14E-02	1,84E-01	6,99E-04	4,05E-05	1,56E-04	5,19E-05	2,07E-04	-4,04E-03
Ecotoxicity (freshwater)	CTUe	4,87E+01	9,52E-03	9,70E+00	5,84E+01	1,14E-01	5,44E-02	2,42E-02	1,08E-02	6,38E-01	8,41E-02
Human toxicity, cancer	CTUh	4,28E-10	7,66E-13	1,00E-10	5,30E-10	2,22E-11	7,46E-13	1,97E-12	1,73E-12	3,81E-12	-2,59E-12
Human tox. non-cancer	CTUh	1,41E-08	4,36E-11	6,56E-09	2,07E-08	4,16E-10	1,17E-11	1,11E-10	5,14E-11	5,95E-10	-1,41E-10
SQP <sup>7)</sup>	-	5,01E+00	6,78E-02	5,25E+00	1,03E+01	3,04E-01	6,30E-03	1,67E-01	7,29E-03	5,99E-01	-2,25E+00

6) 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; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	1,60E+00	9,23E-04	6,89E-01	2,29E+00	1,16E-02	5,98E-04	2,42E-03	-2,96E-01	-2,83E-02	-3,89E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,78E-01	2,78E-01	0,00E+00	0,00E+00	0,00E+00	-2,53E-01	-2,50E-02	2,40E-01
Total use of renew. PER	MJ	1,60E+00	9,23E-04	9,68E-01	2,57E+00	1,16E-02	5,98E-04	2,42E-03	-5,49E-01	-5,33E-02	-1,49E-01
Non-re. PER as energy	MJ	4,37E+01	6,73E-02	1,04E+01	5,41E+01	1,35E+00	9,53E-02	1,72E-01	-4,18E-01	-4,00E+01	-1,21E+00
Non-re. PER as material	MJ	3,44E+01	0,00E+00	-4,66E-01	3,40E+01	0,00E+00	0,00E+00	0,00E+00	-2,74E-01	-3,37E+01	6,51E-01
Total use of non-re. PER	MJ	7,81E+01	6,73E-02	9,89E+00	8,81E+01	1,35E+00	9,53E-02	1,72E-01	-6,93E-01	-7,37E+01	-5,57E-01
Secondary materials	kg	1,13E-02	2,87E-05	1,00E-03	1,23E-02	6,35E-04	3,94E-05	7,38E-05	2,76E-05	8,72E-05	2,83E-02
Renew. secondary fuels	MJ	6,01E-05	3,64E-07	1,11E-03	1,17E-03	2,33E-06	1,03E-07	9,37E-07	1,78E-07	1,75E-06	-1,92E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	7,88E-05	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	1,20E-02	9,95E-06	1,69E-02	2,90E-02	1,09E-04	6,10E-06	2,53E-05	7,64E-06	-3,85E-03	-1,36E-04

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste	kg	6,88E-02	1,14E-04	8,93E-03	7,78E-02	1,87E-03	1,07E-04	2,88E-04	3,12E-04	4,18E-04	-4,44E-04
Non-hazardous waste	kg	2,00E+01	2,11E-03	7,82E-01	2,08E+01	2,71E-02	1,56E-03	5,38E-03	1,10E-02	2,85E+00	-4,16E-01
Radioactive waste	kg	4,13E-05	1,44E-08	3,91E-06	4,52E-05	1,70E-07	9,96E-09	3,83E-08	1,33E-08	5,07E-08	-1,03E-06

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	5,00E-02	5,00E-02	0,00E+00	0,00E+00	0,00E+00	2,35E-02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	2,84E-08	2,84E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	6,63E-06	6,63E-06	0,00E+00	0,00E+00	0,00E+00	9,98E-02	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,21E-02	0,00E+00	0,00E+00
Exported energy –	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,77E-02	0,00E+00	0,00E+00

**ENVIRONMENTAL IMPACTS – EN 15804+A1, CML**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	2,31E+00	4,61E-03	1,09E+00	3,40E+00	1,07E-01	7,28E-03	1,18E-02	1,97E-02	1,04E-01	-3,89E-02
Ozone depletion Pot.	kg CFC-11e	9,45E-08	5,46E-11	7,44E-09	1,02E-07	1,24E-09	8,65E-11	1,45E-10	6,20E-12	2,31E-10	-1,40E-09
Acidification	kg SO <sub>2</sub> e	5,34E-03	1,21E-05	5,65E-03	1,10E-02	2,23E-03	4,60E-05	3,07E-05	4,33E-06	5,89E-05	-1,27E-04
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	2,04E-03	2,94E-06	2,14E-03	4,19E-03	2,50E-04	1,08E-05	7,52E-06	1,45E-06	3,78E-05	-5,44E-05
POCP (“smog”)	kg C <sub>2</sub> H <sub>4</sub> e	6,67E-04	1,08E-06	2,69E-04	9,37E-04	1,12E-04	3,45E-06	2,76E-06	4,89E-07	2,06E-05	-1,60E-05
ADP-elements	kg Sbe	1,24E-05	1,26E-08	5,54E-07	1,30E-05	1,30E-07	2,55E-09	3,29E-08	7,40E-09	2,10E-08	-1,31E-07
ADP-fossil	MJ	7,53E+01	6,64E-02	1,34E+01	8,87E+01	1,34E+00	9,47E-02	1,70E-01	6,77E-03	2,50E-01	-1,13E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	2,34E+00	4,64E-03	1,09E+00	3,43E+00	1,08E-01	7,32E-03	1,19E-02	1,94E-02	1,07E-01	-4,01E-02

*9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.*

**SCENARIO DOCUMENTATION**

**DATA SOURCES**

**Manufacturing energy scenario documentation**

1. Electricity, consumption mix w/o renewables, China, 2023, China, One Click LCA, 1.15 kgCO2e/kWh

**Transport scenario documentation - A4 (Transport resources)**

1. Market for transport, freight, lorry >32 metric ton, EURO5, 131 km
2. Market for transport, freight, sea, container ship, 8677 km

**Use stages scenario documentation - C1-C4 (Data source)**

1. Treatment of waste paper, unsorted, sorting, Ecoinvent, Materials for recycling, 0.019 kg
2. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.0018 kg
3. Exported Energy: Thermal, Ecoinvent, 0.0057 MJ
4. Exported Energy: Thermal, Ecoinvent, 0.052 MJ
5. Exported Energy: Electricity, Ecoinvent, 0.0041 MJ
6. Exported Energy: Electricity, Ecoinvent, 0.038 MJ
7. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.002 kg
8. Treatment of waste polypropylene, sanitary landfill, Ecoinvent, 1.0 kg
9. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0045 kg
10. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.006 kg
11. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.039 kg
12. Diesel, burned in building machine, Ecoinvent, 0.0202 kWh

## THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

### Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

D.V, as an authorized verifier for EPD Hub Limited 22.02.2026

*Magaly B.*



# ENVIROMESH®

## CONTACT INFORMATION

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