ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Hasopor Foam Glass Aggregate Bulk
Hasopor AB

EPD HUB, HUB-5694
Published on 12.03.2026, last updated on 12.03.2026, valid until 12.09.2027

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	Hasopor Ab
Address	Strandvägen 2, 69674 Hammar
Contact details	info@hasopor.se
Website	hasopor.se

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	Design phase EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Emily Lainpelto
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	D.V, as an authorized verifier for EPD Hub

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.

PRODUCT

Product name	Hasopor Foam Glass Aggregate Bulk
Additional labels	Hasopor 10-60
Product reference	-
Place(s) of raw material origin	Sweden, United Kingdom
Place of production	Hammar, Sweden
Place(s) of installation and use	Sweden
Period for data	1/11/2025-30/11/2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	100

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m^3 of foam glass aggregate
Declared unit mass	180 kg
Mass of packaging	0 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	8
GWP-total, A1-A3 ($kgCO_2e$)	8,61
Secondary material, inputs (%)	98,6
Secondary material, outputs (%)	52
Total energy use, A1-A3 (kWh)	596
Net freshwater use, A1-A3 (m^3)	0,48

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Hasopor AB produces foam glass aggregate at its production facility in Hammar, Sweden. The company produces lightweight foam glass aggregate made from recycled glass. Hasopor AB is part of the Foamit Corporation, which has four production sites in the Nordic countries. The sites process recycled glass to produce foam glass aggregate as well as glass cullet, powder, and sand for industrial purposes.

PRODUCT DESCRIPTION

Foam glass aggregate is a pumice like aggregate that is used by the infrastructure and construction industries as a lightweight fill material. Foam glass aggregate is manufactured from waste glass cullet, and a foaming agent (typically silicon carbide). Foam glass production prevents landfilling of reject glass generated at glass recycling plants. Any organic matter impurities in the raw material combusts in the production process, and therefore there is no organic matter in the foam glass product. Foam glass is non-flammable and has good water conductivity properties. Thanks to its foamed cell structure, foam glass aggregate provides excellent thermal insulation. The foam glass aggregate's flexible settling properties and angle of repose ensure a robust substructure on the worksite.

This EPD considers foam glass Hasopor 10-60 (grain size 10-60 mm, loose dry bulk density 180 kg/m^3 (±15%)) in bulk, produced in Hasopor AB production facility in Hammar, Sweden.

Further information can be found at: hasopor.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	100	Sweden, United Kingdom
Fossil materials	0	-
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,000289
Biogenic carbon content in packaging, kg C	0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m^3
Mass per declared unit	180 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	x	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

Not declared = ND.

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 losses during electricity transmission.

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

Raw material supply (A1): This module considers the extraction and processing of raw materials used for the manufacturing of foam glass aggregate. The glass raw material used for foam glass aggregate production is acquired directly from the waste handling site, without any additional processing before transport. This glass waste is produced during the glass cullet recycling process and has no use. Glass raw material is purchased as waste, and therefore no impacts have been assigned to the production of the material since it is waste glass, which does not require any further processing.

Transport of the raw materials (A2): This module consists of the transportation of all raw materials covered by module A1, from the extraction, production, and treatment site to the factory, considering the specific distances of each material supplier.

Manufacturing of foam glass aggregate (A3): This module refers to the production process of the foam glass aggregate in the production plant. It includes the combustion of fuels. The product is a bulk product and does not contain packaging.

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. Transportation to site (A4) includes impact from transportation of foam glass with Euro 6 vehicle variant load carriers using hydrotreated vegetable oil (HVO) as a fuel.

Installation impacts that occurred from installing the foam glass aggregate to the building site (A5) include use in infrastructure and housebuilding. No installation waste is generated during installation.

PRODUCT USE AND MAINTENANCE (B1-B7)

Product use and maintenance modules (B1-B7) have not been included in this EPD as there are no use phase emissions.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Deconstruction or demolition (C1): This includes the dismantling of the foam glass aggregate after its use by a hydraulic digger.

Transport to the waste processing site (C2): This module considers a default distance of 50 km between the building where the product was installed and the reuse site or the waste manager facility.

Waste processing (C3): This module includes the reconditioning of the foam glass aggregate waste for its reuse. In this study it is assumed that 52% of the foam glass aggregate is reused directly without any treatment.

Disposal (C4): This module considers the 48% of foam glass aggregate that is not reused and is therefore disposed of.

SYSTEM DIAGRAM

LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

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.

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.

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	Not applicable
Ancillary materials	Not applicable
Manufacturing energy and waste	No allocation

PRODUCT & MANUFACTURING SITES GROUPING

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

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 and EPD Process Certification 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	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	8,83E-01	1,28E+00	6,45E+00	8,61E+00	1,66E+00	1,19E+00	ND	ND	ND	ND	ND	ND	ND	5,94E-01	9,69E-01	0,00E+00	5,39E-01	-1,77E+02
GWP – fossil	kg CO_2e	8,80E-01	1,28E+00	5,84E+00	8,00E+00	1,57E+00	1,19E+00	ND	ND	ND	ND	ND	ND	ND	5,94E-01	9,69E-01	0,00E+00	5,39E-01	-1,76E+02
GWP – biogenic	kg CO_2e	1,06E-03	2,84E-04	6,06E-01	6,07E-01	0,00E+00	1,20E-04	ND	ND	ND	ND	ND	ND	ND	6,89E-05	2,19E-04	0,00E+00	-1,72E-04	0,00E+00
GWP – LULUC	kg CO_2e	1,43E-03	6,04E-04	2,41E-03	4,45E-03	8,47E-02	1,20E-04	ND	ND	ND	ND	ND	ND	ND	7,31E-05	4,33E-04	0,00E+00	3,08E-04	-2,48E-01
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	1,55E-08	1,88E-08	7,11E-08	1,05E-07	8,40E-08	1,80E-08	ND	ND	ND	ND	ND	ND	ND	1,12E-08	1,43E-08	0,00E+00	1,56E-08	-3,26E-06
Acidification potential	mol H^+e	4,67E-03	7,58E-03	1,07E-02	2,30E-02	4,06E-02	5,31E-03	ND	ND	ND	ND	ND	ND	ND	5,11E-03	3,30E-03	0,00E+00	3,82E-03	-6,31E-01
EP-freshwater[2)]	kg Pe	4,13E-04	9,39E-05	6,68E-04	1,17E-03	4,75E-04	3,39E-05	ND	ND	ND	ND	ND	ND	ND	2,55E-05	7,54E-05	0,00E+00	4,43E-05	-1,02E-02
EP-marine	kg Ne	6,04E-04	2,12E-03	9,32E-03	1,20E-02	3,55E-02	2,32E-03	ND	ND	ND	ND	ND	ND	ND	2,36E-03	1,09E-03	0,00E+00	1,46E-03	-1,09E-01
EP-terrestrial	mol Ne	6,09E-03	2,33E-02	3,00E-02	5,94E-02	1,76E-01	2,54E-02	ND	ND	ND	ND	ND	ND	ND	2,58E-02	1,18E-02	0,00E+00	1,59E-02	-1,17E+00
POCP ("smog")[3)]	kg NMVOCe	2,57E-03	8,33E-03	1,12E-02	2,21E-02	8,68E-03	8,24E-03	ND	ND	ND	ND	ND	ND	ND	7,86E-03	4,87E-03	0,00E+00	5,70E-03	-1,57E+00
ADP-minerals & metals[4)]	kg Sbe	1,16E-06	3,34E-06	1,93E-05	2,38E-05	8,45E-06	4,21E-07	ND	ND	ND	ND	ND	ND	ND	2,67E-07	2,70E-06	0,00E+00	8,57E-07	-3,23E-04
ADP-fossil resources	MJ	1,21E+01	1,83E+01	2,11E+03	2,14E+03	1,59E+01	1,54E+01	ND	ND	ND	ND	ND	ND	ND	7,66E+00	1,41E+01	0,00E+00	1,32E+01	-4,43E+03
Water use[5)]	m^3e depr.	2,83E-01	8,73E-02	1,99E+01	2,03E+01	2,72E+00	3,84E-02	ND	ND	ND	ND	ND	ND	ND	2,80E-02	6,94E-02	0,00E+00	3,82E-02	-2,40E+04

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	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,57E-08	1,18E-07	5,65E-07	7,09E-07	2,76E-07	7,40E-08	ND	ND	ND	ND	ND	ND	ND	1,45E-07	9,70E-08	0,00E+00	8,70E-08	-2,63E-06
Ionizing radiation[6]	kBq U235e	2,96E-01	1,53E-02	1,75E+02	1,76E+02	6,44E-02	6,81E-03	ND	ND	ND	ND	ND	ND	ND	6,18E-03	1,22E-02	0,00E+00	8,32E-03	-2,70E-01
Ecotoxicity (freshwater)	CTUe	1,44E+00	2,48E+00	1,93E+01	2,32E+01	6,78E+01	8,45E-01	ND	ND	ND	ND	ND	ND	ND	3,82E-01	1,99E+00	0,00E+00	1,11E+00	-4,16E+01
Human toxicity, cancer	CTUh	1,16E-10	2,20E-10	1,00E-09	1,34E-09	1,53E-09	7,27E-10	ND	ND	ND	ND	ND	ND	ND	7,98E-11	1,60E-10	0,00E+00	9,94E-11	-4,27E-09
Human tox. non-cancer	CTUh	4,67E-09	1,12E-08	4,96E-08	6,54E-08	1,53E-07	2,75E-09	ND	ND	ND	ND	ND	ND	ND	1,17E-09	9,10E-09	0,00E+00	2,28E-09	-1,44E-07
SQP[7]	-	2,92E+00	1,68E+01	7,73E+00	2,74E+01	1,69E+02	1,08E+00	ND	ND	ND	ND	ND	ND	ND	5,56E-01	1,42E+01	0,00E+00	2,61E+01	-1,29E+02

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	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8]	MJ	2,55E+00	2,42E-01	2,71E+00	5,50E+00	8,36E+00	9,73E-02	ND	ND	ND	ND	ND	ND	ND	7,97E-02	1,93E-01	0,00E+00	1,28E-01	-3,01E+02
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,55E+00	2,42E-01	2,71E+00	5,50E+00	8,36E+00	9,73E-02	ND	ND	ND	ND	ND	ND	ND	7,97E-02	1,93E-01	0,00E+00	1,28E-01	-3,01E+02
Non-re. PER as energy	MJ	1,58E+01	1,83E+01	2,10E+03	2,14E+03	1,41E+01	1,54E+01	ND	ND	ND	ND	ND	ND	ND	7,66E+00	1,41E+01	0,00E+00	1,32E+01	-3,13E+03
Non-re. PER as material	MJ	1,44E+00	0,00E+00	-1,29E-02	1,43E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-7,43E-01	-6,86E-01	0,00E+00
Total use of non-re. PER	MJ	1,73E+01	1,83E+01	2,10E+03	2,14E+03	1,41E+01	1,54E+01	ND	ND	ND	ND	ND	ND	ND	7,66E+00	1,41E+01	-7,43E-01	1,26E+01	-3,13E+03
Secondary materials	kg	1,77E+02	8,02E-03	2,59E-02	1,78E+02	9,30E-03	6,38E-03	ND	ND	ND	ND	ND	ND	ND	5,49E-03	5,98E-03	0,00E+00	3,33E-03	-7,96E-01
Renew. secondary fuels	MJ	3,18E-05	9,15E-05	1,11E-04	2,35E-04	1,40E-04	1,67E-05	ND	ND	ND	ND	ND	ND	ND	8,97E-06	7,60E-05	0,00E+00	6,89E-05	-6,48E-01
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,44E+00
Use of net fresh water	m^3	9,31E-03	2,58E-03	4,65E-01	4,77E-01	6,32E-02	1,02E-03	ND	ND	ND	ND	ND	ND	ND	5,91E-04	2,08E-03	0,00E+00	1,38E-02	-2,13E+00

8) 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	9,06E-02	3,07E-02	6,12E-01	7,33E-01	1,72E-01	1,71E-02	ND	ND	ND	ND	ND	ND	ND	1,33E-02	2,38E-02	0,00E+00	1,46E-02	-1,89E+00
Non-hazardous waste	kg	2,00E+00	5,55E-01	7,40E+00	9,95E+00	1,16E+00	2,33E-01	ND	ND	ND	ND	ND	ND	ND	1,84E-01	4,41E-01	0,00E+00	3,34E-01	-3,36E+01
Radioactive waste	kg	7,94E-05	3,75E-06	3,63E-02	3,64E-02	1,53E-05	1,67E-06	ND	ND	ND	ND	ND	ND	ND	1,54E-06	3,00E-06	0,00E+00	2,03E-06	-1,70E-02

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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	9,36E+01	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,62E+00	1,62E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,07E-01
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,09E-02
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,69E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	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	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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	8,77E-01	1,27E+00	5,83E+00	7,99E+00	1,63E+00	1,18E+00	ND	ND	ND	ND	ND	ND	ND	5,90E-01	9,63E-01	0,00E+00	5,34E-01	-1,79E+01
Ozone depletion Pot.	kg $CFC_{-11}e$	1,25E-08	1,50E-08	5,48E-08	8,23E-08	8,02E-08	1,42E-08	ND	ND	ND	ND	ND	ND	ND	8,86E-09	1,14E-08	0,00E+00	1,24E-08	-4,10E-08
Acidification	kg SO_2e	3,99E-03	5,95E-03	7,75E-03	1,77E-02	2,32E-02	3,79E-03	ND	ND	ND	ND	ND	ND	ND	3,60E-03	2,52E-03	0,00E+00	2,83E-03	-1,24E-01
Eutrophication	kg PO_4^3e	1,64E-03	1,02E-03	2,27E-03	4,93E-03	9,62E-02	8,73E-04	ND	ND	ND	ND	ND	ND	ND	8,38E-04	6,15E-04	0,00E+00	9,00E-04	-1,68E-02
POCP (“smog”)	kg C_2H_4e	2,54E-04	4,12E-04	5,74E-04	1,24E-03	6,33E-04	3,61E-04	ND	ND	ND	ND	ND	ND	ND	2,76E-04	2,25E-04	0,00E+00	2,68E-04	-7,30E-03
ADP-elements	kg Sbe	1,16E-06	3,26E-06	2,40E-05	2,84E-05	9,30E-06	4,09E-07	ND	ND	ND	ND	ND	ND	ND	2,60E-07	2,64E-06	0,00E+00	8,40E-07	-2,95E-05
ADP-fossil	MJ	1,21E+01	1,80E+01	2,53E+01	5,54E+01	1,49E+01	1,52E+01	ND	ND	ND	ND	ND	ND	ND	7,55E+00	1,39E+01	0,00E+00	1,31E+01	-1,54E+02

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8,82E-01	1,28E+00	5,84E+00	8,01E+00	1,66E+00	1,19E+00	ND	ND	ND	ND	ND	ND	ND	5,94E-01	9,69E-01	0,00E+00	5,40E-01	-1,77E+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

Scenario parameter	Unit	Value
Electricity production, nuclear, boiling water reactor, Sweden, Ecoinvent	$kgCO_2e/kWh$	0.0077
Biopropane, burned, Sweden, Ecoinvent	$kgCO_2e/kWh$	0.0255
Biodiesel, burned, Sweden, Ecoinvent	$kgCO_2e/kWh$	0.0278
Market for diesel, low-sulfur, Sweden, Ecoinvent	$kgCO_2e/kg$	0.98

Transport scenario documentation - A4 (Transport resources)

Transport scenario documentation A4

Scenario parameter	Unit	Value
Transport, freight, lorry >32 metric ton, EURO6	km	211.06
Capacity utilization (including empty return)	%	50
Bulk density of transported products	kg	1,80E+02
Volume capacity utilization factor	-	-

Transportation fuels A4

Scenario parameter	Unit	Value
Esterification of rape oil, Sweden, Ecoinvent	$kgCO_2e/kg$	-0.712
Direct emission to air: Nitrogen oxides, Formula: NOx, Synonyms: NOx, Emissions to: air, unspecified (One Click LCA), One Click LCA	-	-
Direct emission to air: Carbon monoxide, non-fossil, Formula: CO, Synonyms: Carbon monoxide, Emissions to: air, unspecified (One Click LCA), One Click LCA	-	-
Direct emission to air: Particulate Matter, < 2.5 um, Formula: , Synonyms: particles; particulates; pm; pm2.5, Emissions to: air, unspecified (One Click LCA), One Click LCA	-	-
Direct emission to air: Carbon dioxide, non-fossil, Formula: CO2, Synonyms: Carbon dioxide, Emissions to: air, unspecified (One Click LCA),	$kgCO_2e/kg$	1.0

Installation scenario documentation - A5 (Installation resources)

Scenario parameter	Unit	Value
Machine operation, diesel, >= 74.57 kW, steady-state, Ecoinvent	h	0.0128
Machine operation, diesel, < 18.64 kW, steady-state, Ecoinvent	h	0.0103

End-of-life scenario documentation - C1-C4 (Data source)

Scenario parameter	Unit	Value
Excavation, hydraulic digger, Ecoinvent	m^3	1
Treatment of inert waste, inert material landfill, Ecoinvent	kg	86.4
Materials for re-use, Ecoinvent, Components for re-use	kg	93.6

Transport to waste processing C2 (Scenario assumptions)

Scenario parameter	Unit	Value
Transport, freight, lorry >32 metric ton, EURO5	km	50

Benefits and loads beyond the system boundaries (D)

Scenario parameter	Unit	Value
Expanded clay production, Ecoinvent	kg	46.8
Expanded polystyrene (EPS) insulation, unfaced, calculated average for Sweden, L=0.02-0.040 W/mK, 100 mm, 2 kg/m2 (One Click LCA), One Click LCA	kg	46.8

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 12.03.2026