Environmental Product Declaration (EPD)

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021:

Crushed lightweight clay aggregate Liapor (Liadrain, Liapor “zimní posyp”)

Programme:	“National programme of environmental labeling “- CZ EPD Database in Czech republic - Ekoznačka.cz
Programme operator:	Ministry of the Environment of the Czech Republic, CENIA
Declaration number:	EPD-NPEZ-B612006
EPD owner:	Liapor s.r.o.
Author:	Envitrail s.r.o.
Publication date:	15.09.2025
Valid until:	14.09.2030

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General information

Programme information

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Additional Product Category Rules (PCR): EN 16783:2024
Life Cycle Assessment (LCA)
LCA accountability: *Ing. Eva-Žofie Bergmannová, Envitrail s.r.o., bergmannova@envitrail.com, Ing. Miroslava Česká https://envitrail.com/*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: *Doc. Ing. Jan Weinzettel, Ph.D.,* weinzettel@seznam.cz
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

Statement on the requirements for comparability of EPDs, adapted from ISO 14025:

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company Information

EPD owner:
Liapor s.r.o., Vintířov 176, 357 35 Vintířov, CIN: 46882324

Contact:
Ing. Karel Vávra, email: vavra@liapor.cz

Description of the organisation:
Liapor s.r.o. is an established manufacturer of Liapor© lightweight ceramic aggregate, Liapor© (ceramic aggregate) based lightweight ceramic concrete masonry units, and other building materials with a long tradition in the Czech Republic. The company is part of a European industrial group active in the research, production, and innovation of building materials that meet high technical and environmental standards. The products are certified and supplied to markets throughout Europe.

Product-related or management system-related certifications:
The quality of products is ensured by an effective quality management system in accordance with ISO 9001 and complies with technical regulations relating to the product type (EN 13055-1:2002, EN 13055-2:2006, and EN 14063-1:2004).

Product information

Product name:
Crushed Lightweight expanded clay aggregate Liapor

Representative product for which are LCIA results of this EPD valid:
Crushed Lightweight expanded clay aggregate Liapor 0-6D/450

The input parameters and results of this study are valid for the Liapor 0-6D/450 fraction (450 kg/m^3), but they can be converted to other types of crushed Liapor aggregate using the bulk density (Table 1). Information on the calculation procedure is provided in the chapter “Additional environmental information”.

UN CPC code:
3754

Product description:
Crushed lightweight expanded clay aggregate Liapor 0-6D/450, sold under the trade names Liadrain and Liapor Winter Grit. This type of crushed aggregate is produced by crushing spherical Liapor 4-8/350 aggregate.

Liapor is a lightweight expanded clay aggregate with high strength, excellent insulating properties, and recyclability. Liapor is designed not only for thermal and acoustic insulation,

filling, and drainage applications, but above all for demanding structural use in lightweight concrete, prefabricated elements, and geotechnical projects where key parameters such as strength, low weight, and volume stability are essential. Crushed aggregate is used in plant substrates and also as an inert winter grit.

Table 1: Main types of crushed Liapor aggregate and their properties

Type	Fraction	Bulk density [kg/m3]	Particle density [kg/m3]
Liapor 0-4D/500	0/4	500	1250
Liapor 0-4M/310	0/4	310	900
Liapor 0-1D/650	0/1	650	1900
Liapor 0-6D/450	0/6	450	1000
Liapor 1-8D/350	1/8	350	900

Table 2: Technical data and physical properties

Parameter	Value
Thermal conductivity coefficient λ [W/mK]	0.15
Compressive strength [MPa]	–
Reaction to fire class	A1 - non-combustible

Name and location of production site:
Vintířov 176, 357 35 Vintířov

Manufacture process:
Production takes place in Vintířov (Czech Republic) and involves crushing clay, homogenization, plasticization, and granulation. The granules then pass through a rotary kiln at a temperature of 1150°C, where they expand. The expanded granules pass through a cooler and are then sorted into individual fractions. Part of the sorted Liapor 4-8/350 fraction is crushed into the Liapor 0-6D/450 fraction, which is stored in closed silos or open storage yards.

LCA information

Declared unit:

1 m^3 crushed aggregate Liapor 0-6D/450 with λ 0.15 W/mK and bulk density 450 kg/m^3

Table 3: Declared unit and conversion factor

	Unit	Value
Declared unit	m^3	1
Conversion factor to 1 kg - Liapor 0-6D/450 (450 kg/m^3)	m^3/kg	0.0022

Reference service life:
The reference service life of ceramic aggregate is assumed to be 100 years.

Time representativeness:
Primary production data represent specific values for the period from January 2024 to December 2024. Secondary and background data are based on the ecoinvent 3.11 cut-off database.

Geographical representativeness:
The geographical scope of the study focuses on the Czech Republic, with priority given to national and European processes.

Database(s) and LCA software used:
OpenLCA ver. 2.4 software, database ecoinvent version 3.11, cutoff.

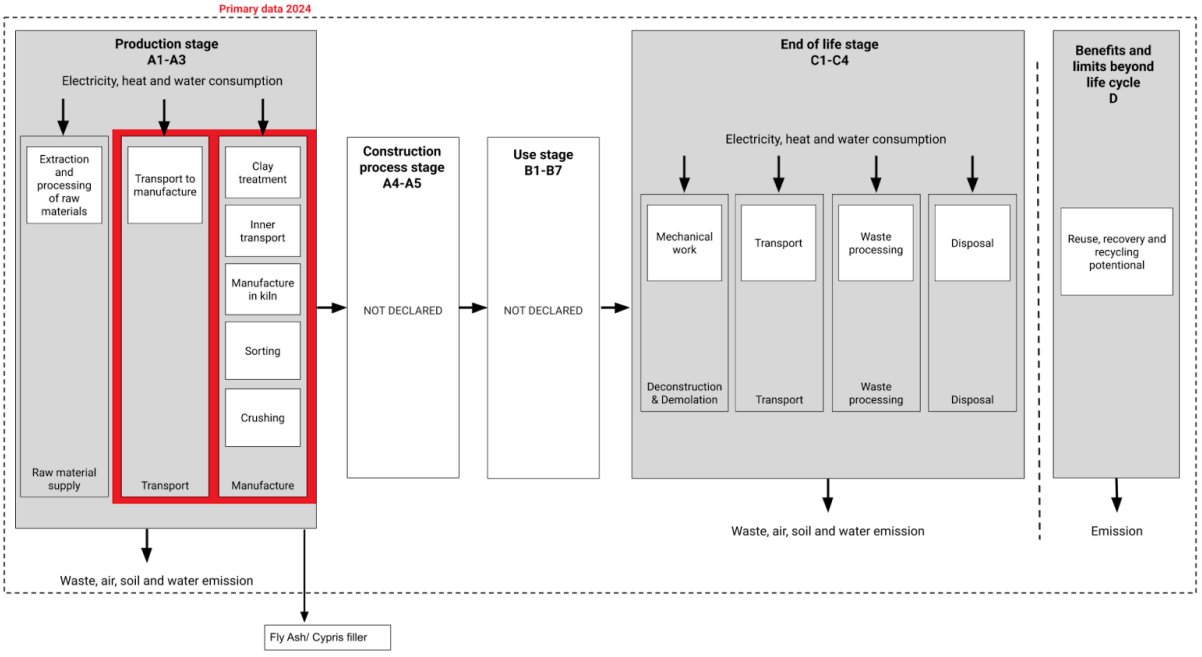
Methodology LCIA:
Environmental Footprint 3.1, EN 15804

Cutoff rules:
All inputs and outputs of unit processes for which data are available are included in the calculation. Environmental impacts related to infrastructure and capital goods are not considered, except for processes included in selected datasets in the database.

Allocation:
For input materials, energy consumption, and output flows, weight allocation was performed from annual data on total production per declared unit. The ecoinvent database system model for secondary flow allocation uses the selected "polluter pays" (PPP) principle. The allocation of the co-product electrostatic fly ash (Cypris filler) was not considered in the calculation, as its contribution based on economic allocation is less than 1 %.

Description of system boundary:
Cradle-to-gate (A1-A3) with modules C1-C4 and module D.

System boundary LIAPOR 0-6D/450



Declared modules

CONSTRUCTION WORKS ASSESSMENT INFORMATION																
CONSTRUCTION WORKS LIFE CYCLE INFORMATION																SUPPLEMENTARY INFORMATION BEYOND CONSTRUCTION WORKS LIFE CYCLE
A1-A3			A4-A5		B1-B7							C1-C4				D
PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction and Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operation energy use	Operation water use	Deconstruction & Demolition	Transport	Waste processing	Disposal	Reuse, recovery, recycling potencial
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

**ND = Not Declared, used for voluntary parameters that are not quantified because of a lack of data.*

The product stage includes the following modules:

- **A1 (Raw material supply)** – Primary data was collected for Liapor 0-6D/450 aggregate by Liapor s.r.o. This module does not include the production of packaging material (packaging material is calculated in module A3).
- **A2 (Transport)** – Module A2 includes the transport of raw materials to the production site. Materials are transported by lorry (>32 t, 16-32 t, 3,5-7,5 t), passenger car, and freight train.

- **A3 (Manufacturing)** – This module includes the manufacture of products, auxiliary materials, and packaging. The processing of any waste arising from this stage is also included.

The end of life stage includes modules:

- **C1 (Deconstruction & demolition)** – Crushed aggregate Liapor 0-6D/450 is expected to be used as part of garden substrate or as winter grit, therefore, removal is carried out manually without the use of machinery.
- **C2 (Transport)** – This module describes the transportation of waste materials to the waste treatment site. The average transportation distance for the Czech Republic is 50.8 km [6].
- **C3 (Waste treatment) –** The amount disposed of through recycling corresponds to 50 % of the product's weight.
- **C4 (Disposal)** – The amount disposed of through landfilling corresponds to 50 % of the product's weight.

The benefits and benefits beyond the product system – Module D:

The potential benefits and costs of waste utilization are assessed in Module D. Recyclable waste from Module A3 is used to calculate the benefits of avoiding the production of primary materials.

Submodule D1 calculates the benefits of using waste as a secondary raw material instead of a primary raw material. This module was calculated for plastic waste from module A3.

When a waste is incinerated for energy recovery (D3), heat and electricity are produced, which can potentially replace the energy mix in the Czech Republic and the thermal energy produced from coal gas (the baseline process for heat in the Czech Republic in the ecoinvent database). This module was calculated for the incineration of mineral oils from module A3.

Modules that were not included (not declared):

- **A4 - A5 (Construction phase)** – Not declared due to dependence on function during the use phase, which may vary significantly depending on the end customer.
- **B1-B7 (Use phase)** – Not declared due to the various possibilities of use, on consumer behavior.

Content information

Table 4: Material distribution of input materials to Liapor 0-6D/450.

Material distribution	Amount	Unit
Cypris clay	0.759	t/DU
Limestone	0.014	t/DU

Table 5: Material distribution of packaging materials for Liapor 0-6D/450

Material distribution	Amount	Unit	Mass % (versus the product)
PE foil	0.239	kg/DU	0.05 %
PP bag	0.062	kg/DU	0.01 %
EUR palette	0.064	pcs/DU	0.31 %

Substances listed as substances of very high concern (SVHC substances) subject to authorization by the European Chemicals Agency are not contained in the product in declarable quantities.

Biogenic carbon content

The calculation of biogenic carbon content and conversion to carbon dioxide was performed in accordance with EN 16449 [8] and is based on the distribution of organic components per declared unit of the final product. The content of organic and foreign particles in the Liapor 0-6D/450 aggregate product is almost zero due to heat treatment at high temperatures and sorting through a series of screens. The resulting biogenic carbon content was therefore determined only in the packaging material.

Table 6: Biogenic carbon content

Biogenic carbon content	kg C/1 m^3 Liapor 0-6D/450
Biogenic carbon content in packaging materials	0.003
Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2.	

Results of the environmental performance indicators – Liapor 0-6D/450

The results refer to the representative product Liapor 0-6D/450 and may differ from other fractions by up to 69.2 % for individual indicators, unless recalculated according to the procedure described in the chapter “Additional environmental information”.

Table 7: Core environmental impact indicators according to EN 15804 (EF 3.1)

Indicator	Reference unit	A1-A3	A4-A5	B1-B7	C1	C2	C3	C4	D
AP	mol H^+-Eq	3.28E+00	ND	ND	0	1.58E-02	0	2.47E-02	-3.34E-03
GWP-total	kg CO_2-Eq	1.64E+02	ND	ND	0	3.44E+00	0	2.20E+00	-1.15E+00
GWP - biogenic	kg CO_2-Eq	3.41E-02	ND	ND	0	2.13E-03	0	1.05E-02	4.08E-03
GWP - fossil	kg CO_2-Eq	1.64E+02	ND	ND	0	3.44E+00	0	2.19E+00	-1.15E+00
GWP - luluc	kg CO_2-Eq	1.27E-02	ND	ND	0	1.19E-03	0	5.51E-04	-5.43E-04
ADP - fossil*	MJ, net calorific value	2.96E+02	ND	ND	0	6.52E+00	0	3.17E+01	-2.69E+00
EP - fw	kg P-Eq	9.06E+02	ND	ND	0	4.96E+01	0	5.18E+01	-1.62E+01
EP-marine	kg N-Eq	1.61E-01	ND	ND	0	2.43E-04	0	3.77E-03	-7.07E-04
EP - terrestrial	mol N-Eq	2.67E-01	ND	ND	0	6.20E-03	0	6.16E-03	-9.49E-04
ADP- elements*	kg Sb-Eq	2.60E+00	ND	ND	0	6.76E-02	0	6.63E-02	-8.93E-03
ODP	kg CFC-11-Eq	3.97E-07	ND	ND	0	3.47E-08	0	5.53E-08	-8.03E-11
POCP	kg NMVOC-Eq	1.47E-08	ND	ND	0	8.82E-10	0	8.83E-10	-4.01E-09
WDP*	m^3 world eq. deprived	5.67E-01	ND	ND	0	6.13E-02	0	6.55E-02	-1.33E-01
Acronyms	*GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-elements = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption*								

***Disclaimer:** The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

***General disclaimer:** The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. It is not recommended to use the results of modules A1-A3 without taking into account the results of module C.*

Additional mandatory and voluntary impact category indicators - Liapor 0-6D/450

Table 8: Additional mandatory and voluntary impact category indicators according to EN 15804 (EF 3.1)

Liapor 0-6D/450									
Indicator	**Unit**	**A1-A3**	**A4-A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Global warming potential (GWP-GHG)	kg CO_2eq	1.64E+02	ND	ND	0	6.44E-02	0	3.44E+00	-1.15E+00
Particulate matter emissions (PM)	disease incidence	2.56E-05	ND	ND	0	3.39E-07	0	3.75E-07	-8.34E-09
GWP-GHG: This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.									

Resource use indicators

Table 9: Resource use parameters for Liapor 0-6D/450

LIAPOR 0-6D/450									
Parameter	**Unit**	**A1-A3**	**A4-A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	9.07E+00	ND	ND	0	8.25E-01	0	0	-2.80E-01
PERM	MJ	5.15E+00	ND	ND	0	0	0	9.97E-01	-2.85E-02
PERT	MJ	1.42E+01	ND	ND	0	8.25E-01	0	9.97E-01	-3.08E-01
PENRE	MJ	8.31E+02	ND	ND	0	4.96E+01	0	0	-1.32E+01
PENRM	MJ	7.48E+01	ND	ND	0	0	0	5.18E+01	-2.98E+00
PENRT	MJ	9.06E+02	ND	ND	0	4.96E+01	0	5.18E+01	-1.62E+01
SM	kg	0	ND	ND	0	0	0	0	0
RSF	MJ	0	ND	ND	0	0	0	0	0
NRSF	MJ	0	ND	ND	0	0	0	0	0
FW	m^3	1.77E-01	ND	ND	0	6.35E-03	0	-6.20E-01	-3.74E-03
Acronyms	*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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water*								

Waste indicators

Table 10: Waste indicators for Liapor 0-6D/450

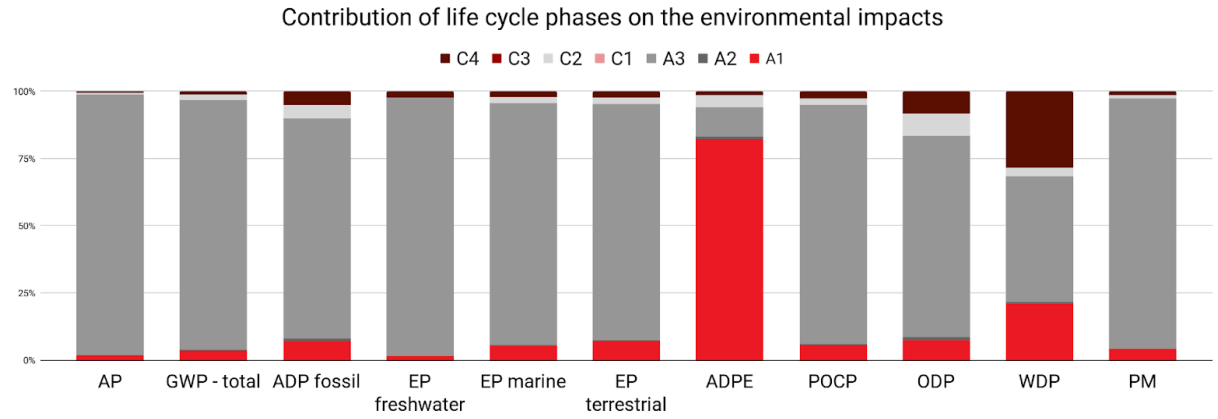
LIAPOR 0-6D/450									
Indicator	**Unit**	**A1-A3**	**A4-A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.01E+00	ND	ND	0	5.08E-02	0	6.11E-02	-4.86E-02
Non-hazardous waste disposed	kg	1.34E+01	ND	ND	0	5.29E-01	0	7.30E+02	-9.34E-01
Radioactive waste disposed	kg	1.43E-04	ND	ND	0	1.51E-05	0	1.57E-05	-3.16E-05

Output flow indicators

Table 11: Output flow indicators for Liapor 0-6D/450

LIAPOR 0-6D/450									
Indicator	**Unit**	**A1-A3**	**A4-A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	ND	ND	0	0	0	0	0
Material for recycling	kg	3.66E+00	ND	ND	0	0	2.25E+02	0	0
Materials for energy recovery	kg	0	ND	ND	0	0	0	0	0
Exported energy, electricity	MJ	1.27E+00	ND	ND	0	0	0	0	0
Exported energy, thermal	MJ	9.50E+00	ND	ND	0	0	0	0	0

LCA Interpretation



Graph 1: Contribution of life cycle phases of Liapor 0-6D/450 on the environmental impacts

Based on normalised and weighted results according to the EF ver. 3.1, the three most relevant impact categories (hotspots) are Climate change, Particulate matter emissions (PM), and Acidification.

The production phase (modules A1 - A3) has the highest environmental impacts in all impact categories through the life cycle of Liapor 0-6D/450, mainly due to direct emissions from combustion. Another important phase of the life cycle is module C2 – transport of waste at the end of its service life and C4 - Disposal.

Environmental impact indicators

Acidification (AP)
Acidification is the process of increasing the acidity of soils, air, or water caused by an elevated concentration of hydrogen ions. An indicator of the impact category of acidification is accumulated exceedance (AE). The result is expressed in mol H^+ eq.

Climate change (GWP)
Climate change is divided into three parts: biogenic, fossil, land use, and land use transformation. An indicator called global warming potential (GWP100) is used to measure the amount of greenhouse gases contributing to global warming. The results are quantified in kilograms of CO_2 eq.

Ozone depletion (ODP)
Ozone layer depletion is the result of emissions of ozone-depleting substances, such as long-lived chlorine and bromine-containing gases (e.g., CFCs, HCFCs, Halons). It is quantified in kg CFC-11 eq., with the ozone depletion potential as its indicator.

Water use (WDP)
Water deprivation potential quantifies the potential of water deprivation to humans or ecosystems. It is quantified in m3 world eq. and helps evaluate the risks associated with water scarcity.

Photochemical oxidant formation (POCP)
The impact category photochemical oxidation formation aggregates substances that contribute to the formation of tropospheric ozone. The category indicator is tropospheric ozone concentration increase expressed in kg NMVOC eq.

Resources use, minerals and metals (ADP)
Resource scarcity and limitations for current and future generations include depletion of abiotic resources - elements (ADPe), quantified in kg Sb eq., and depletion of abiotic resources - fossil fuels (ADPf), quantified in MJ.

Eutrophication (EP)
Eutrophication enriches the environment with nutrients, impacting land, water, and seas, leading to excess plankton and algae growth, harming the water quality. It is categorised into terrestrial (accumulated exceedance expressed in mol N eq.), freshwater (nutrient fraction reaching freshwater end expressed in kg P eq.), and marine impacts (nutrient fraction reaching marine end expressed in kg N eq.

Additional environmental information

The input parameters (Tables 4 - 6) and the results of this study (Tables 7 - 11) can be converted using bulk density (Table 1) to 1 m^3 of other types of Liapor crushed aggregate that are subject to the same conditions and production process.

Table 12 shows as an example the results of the environmental impact indicators related to the declared unit – 1 kg of Liapor aggregate produced (crushed aggregate). By multiplying the values in Table 12 by the bulk density given in Table 1, it is possible to obtain the environmental outputs of other fractions per 1 m³.

Table 12: Core environmental impact indicators according to EN 15804 (EF 3.1) – per 1 kg

Indicator	Unit	A1-A3	A4-A5	B1-B7	C1	C2	C3	C4	D
AP	mol H^+-Eq	7.30E-03	ND	ND	0	3.52E-05	0	5.49E-05	-7.43E-06
GWP-total	kg CO_2-Eq	3.64E-01	ND	ND	0	7.65E-03	0	4.90E-03	-2.56E-03
GWP - biogenic	kg CO_2-Eq	7.57E-05	ND	ND	0	4.73E-06	0	2.33E-05	9.06E-06
GWP - fossil	kg CO_2-Eq	3.64E-01	ND	ND	0	7.64E-03	0	4.87E-03	-2.56E-03
GWP - luluc	kg CO_2-Eq	2.82E-05	ND	ND	0	2.65E-06	0	1.22E-06	-1.21E-06
ADP - fossil*	MJ, net calorific value	6.57E-01	ND	ND	0	1.45E-02	0	7.04E-02	-5.98E-03
EP - fw	kg P-Eq	2.01E+00	ND	ND	0	1.10E-01	0	1.15E-01	-3.59E-02
EP-marine	kg N-Eq	3.57E-04	ND	ND	0	5.40E-07	0	8.38E-06	-1.57E-06
EP - terrestrial	mol N-Eq	5.94E-04	ND	ND	0	1.38E-05	0	1.37E-05	-2.11E-06
ADP- elements*	kg Sb-Eq	5.77E-03	ND	ND	0	1.50E-04	0	1.47E-04	-1.98E-05
ODP	kg CFC-11-Eq	8.82E-10	ND	ND	0	7.71E-11	0	1.23E-10	-1.78E-13
POCP	kg NMVOC-Eq	3.27E-11	ND	ND	0	1.96E-12	0	1.96E-12	-8.92E-12
WDP*	m^3 world eq. deprived	1.26E-03	ND	ND	0	1.36E-04	0	1.45E-04	-2.95E-04
Acronyms	*GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-elements = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption*								

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References

[1] ISO 14040:2006 Environmental management - Life Cycle Assessment - Principles and Framework

[2] ISO 14044:2006 Environmental management - Life Cycle Assessment – Requirements and guidelines

[3] ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures

[4] EN 15804+A2:2020 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

[5] Forfaitaire waarden voor verwerking-scenario's einde leven behorende bij: Bepalingsmethode Milieuprestatie Bouwwerken, 2022. Nationale Milieu database. https://milieudatabase.nl/media/filer_public/05/54/05542700-02b3-439b-91c9-7824353da2c2/forfaitaire_waarden_november_2020.pdf (accessed Oct 25, 2024).

[6] ecoinvent, 2024. Life Cycle Inventory (LCI) datasets, ecoinvent database, version 3.11 https://support.ecoinvent.org/ecoinvent-version-3.11

[7] EN 16783:2017 Thermal insulation products - Environmental Product Declaration (EPD) - Product Category Rules (PCR) complementary to EN 15804 for factory made and in-situ formed products

[8] EN 16449:2014 Wood and wood-based products – Calculation of the biogenic carbon content of wood and conversion to carbon dioxide