



Declaration number: DAP 001:2026

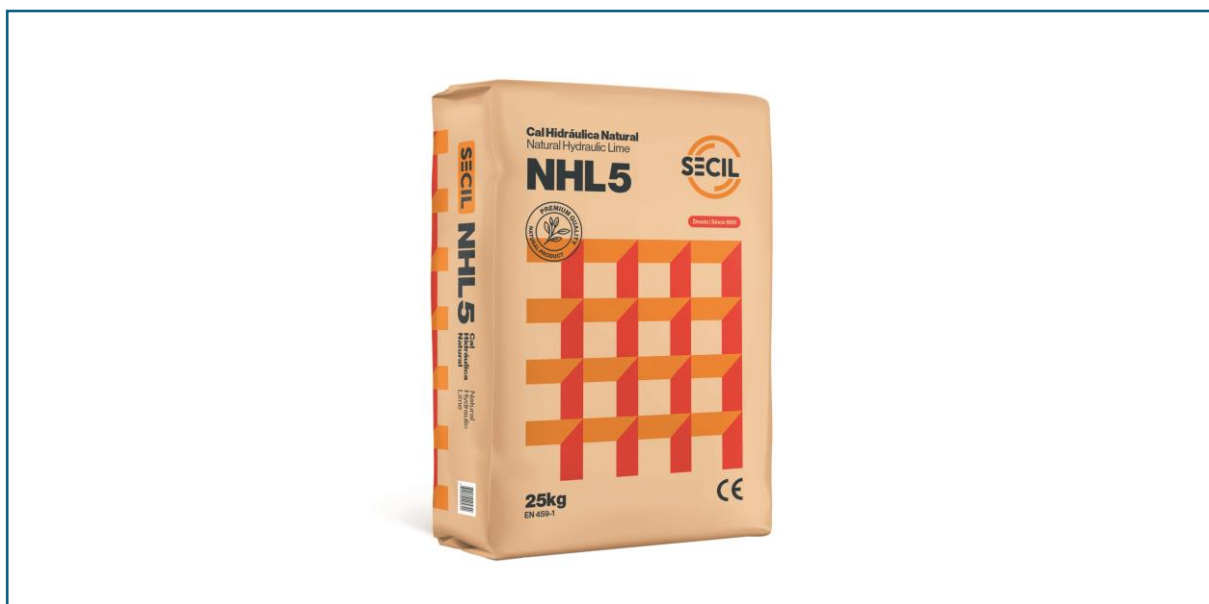


NATURAL HYDRAULIC LIME NHL 5

Issue date: 26/02/2026

Valid until: 25/02/2031

SECILTEK, S.A.



Version 1.6 Edition June 2025

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1. GENERAL INFORMATION

1.1. The DAPHabitat System

Programme operator:	Associação Plataforma para a Construção Sustentável www.clusterhabitat.pt geral@clusterhabitat.pt	 Cluster Habitat Sustentável
Address:	R. Coronel Veiga Simão, Ed. CTCV Lufapo Hub 3025-307 Coimbra	
Email address:	deptecnico@clusterhabitat.pt	
Telephone number:	(+351) 912 219 974	
Website:	www.daphabitat.pt	
Logo:		

1.2. EPD owner

Name of the owner:	SECILTEK, S.A.	
Production site:	Rua do Mercado, s/n, Gândara 2405-017 Maceira LRA Portugal	
Address (head office):	Rua do Mercado, s/n, Gândara 2405-017 Maceira LRA Portugal	
Telephone number:	(+351) 244 770 220	
Email address:	comercial.seciltek@secil.pt	
Website:	https://www.seciltek.com	
Logo:		
Information concerning the applicable management Systems:	NP EN ISO 9001 – Quality Management System NP ISO 14001 – Environmental Management System	
Specific aspects regarding production:	CAE 23640 - Mortars	
Organization's	Commitments undertaken by SECILTEK integrated into the Sustainability Policy: • Enrich the communities where they operate through job creation, local hiring, and community	

environmental policy:	engagement. • Invest in talent, equal opportunities, and employee diversity, promoting equity. • Prioritize Health and Safety as fundamental values integrated into all activities. • Ensure protection and prevention measures for all employees, fostering a culture of Health and Safety. • Commit to ZERO harm for employees, contractors, and the communities where they operate. • Make responsible use of natural resources and energy, promoting circularity throughout the product life cycle. • Aim for carbon neutrality through the use of alternative fuels, secondary raw materials, and the development of low-carbon products and solutions. • Promote the vitality and balance of the ecosystems in which they operate and landscape restoration, protecting biodiversity. • Continuously innovate with new manufacturing and management processes, creating safe solutions and quality products that generate more value for the Company, the Customer, and Society. • Value the application of the best production and control technologies, aiming for more efficient and cleaner production. • Create value for shareholders, customers, employees, suppliers, and other partners. • Pursue profitability and financial balance in operations to ensure business continuity and development.
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1.3. Information concerning the EPD

Authors:	1. CTCV – Centro Tecnológico da Cerâmica e do Vidro 2. SECILTEK, S.A.
Contact of the authors:	1. CTCV materials: habitat iParque – Parque Tecnológico de Coimbra – Lote 6 3040-540 Antanhol – Portugal (T) +351 239 499 200 Marisa Almeida: marisa@ctcv.pt 2. Apartado 2 EC Maceira 2406-909 Maceira LRA – Portugal (T) +351 244 770 220 Daniela Faísca: daniela.faisca@secil.pt Luís Carreira: luís.andre.carreira@secil.pt comercial.seciltek@secil.pt
Issue date:	26/02/2026
Registration date:	04/02/2026
Registration number:	DAP 001:2026
Valid until:	25/02/2031
Representativity of the EPD (location, manufacturer, group of manufacturers):	EPD of a single (1) product class, produced in a single (1) industrial unit, belonging to a single (1) producer (Secil - SECILTEK, S.A.)
DAP boundary:	Cradle-to-gate EPD (A1-A3)
Type of EPD	Specific EPD
Geographical representation	Portugal/Europe

1.4. Verification demonstration

External independent verification, accordingly, with the standard ISO 14025:2010 and EN 15804:2012+A2:2019	
Certification Body	Verifier
	
(CERTIF – Associação para a Certificação)	(Helena Gervásio)

1.5. EPD registration

Programme Operator

(Plataform for Sustainable Construction)

1.6. PCR (Product Category Rules) basic model

Name:	Base model PCR for construction products
Issue date:	June 2025 Edition
Number of registrations on the database:	RCP-mb001
Version:	Version 3.1
Identification and contact of the coordinator(s):	Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt José Dinis Silvestre jose.silvestre@ist.utl.pt
Identification and contact of the authors:	Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt José Silvestre jds@civil.ist.utl.pt Fausto Freire Cristina Rocha Ana Paula Duarte Ana Cláudia Dias

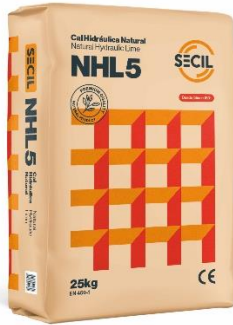
	Helena Gervásio Victor Ferreira Ricardo Mateus António Baio Dias
Composition of the Sectorial Panel:	-
Consultation period:	18/11/2015 - 18/01/2016 12/08/2023 – 30/11/2023
Valid until:	01/06/2027

CEN standard EN 15804 serves as the core Product Category Rules (PCR).

1.7. C-PCR (Complementary Product Category Rules)

Name:	EN 16908:2017+A1:2022 – Cement and building lime – Environmental product declarations – Product category rules complementary to EN 15804
Issue date:	March 2022
Number of registrations on the database:	EN 16908:2017+A1:2022
Version:	EN 16908:2017+A1:2022
Identification and contact of the coordinator(s):	Comité Européen de Normalisation (CEN)

1.8. Information concerning the product/product class

Identification of the product:	Natural Hydraulic Lime NHL 5
Illustration of the product:	
Brief description of the product:	Natural Hydraulic Lime NHL 5 is a hydraulic lime composed of calcium silicates, aluminates and calcium hydroxide, obtained by firing argillaceous limestone followed by grinding. It is classified as NHL 5 according to NP EN 459-1

	Natural Hydraulic Lime NHL 5 is a unique binder, since in addition to hydraulic setting, it also exhibits aerial setting, achieved through carbonation with atmospheric CO₂. It is used in the preparation of binders for mortars, in the manufacture of other construction products, and for civil engineering applications.																																																																			
Main technical characteristics of the product:	Table 1: Chemical, mechanical and physical characteristics of Natural Hydraulic Lime NHL 5 <table><tr><th colspan="2">Designation</th><th>Value</th><th>Units</th><th>Standards</th></tr><tr><td colspan="2">Available lime Ca(OH)₂</td><td>≥ 15.0</td><td>%</td><td>EN 459-1</td></tr><tr><td colspan="2">Sulfate</td><td>≤ 2.0</td><td>%</td><td>EN 459-1</td></tr><tr><td colspan="2">Colour</td><td>Beige</td><td>-</td><td>-</td></tr><tr><td colspan="2">Free water</td><td>≤ 2.0</td><td>%</td><td>EN 459-1</td></tr><tr><td colspan="2">Bulk density</td><td>0.65 ± 0.05</td><td>kg/dm³</td><td>-</td></tr><tr><td colspan="2">Density</td><td>2.7</td><td>g/cm³</td><td>-</td></tr><tr><td colspan="2">Fineness</td><td>90 μm ≤ 15.0 200 μm ≤ 2.0</td><td>%</td><td>EN 459-1</td></tr><tr><td colspan="2">Expansibility</td><td>≤ 2.0</td><td>mm</td><td>EN 459-1</td></tr><tr><td colspan="2">Penetration</td><td>> 10 e < 50</td><td>mm</td><td>EN 459-1</td></tr><tr><td colspan="2">Air content</td><td>≤ 5.0</td><td>%</td><td>EN 459-1</td></tr><tr><td rowspan="2">Setting time</td><td>Start</td><td>> 1</td><td rowspan="2">h</td><td rowspan="2">EN 459-1</td></tr><tr><td>End</td><td>≤ 15</td></tr><tr><td colspan="2">Compressive strength (28 days)</td><td>≥ 5.0 e ≤ 15.0</td><td>MPa</td><td>EN 459-1</td></tr></table>	Designation		Value	Units	Standards	Available lime Ca(OH) ₂		≥ 15.0	%	EN 459-1	Sulfate		≤ 2.0	%	EN 459-1	Colour		Beige	-	-	Free water		≤ 2.0	%	EN 459-1	Bulk density		0.65 ± 0.05	kg/dm ³	-	Density		2.7	g/cm ³	-	Fineness		90 μm ≤ 15.0 200 μm ≤ 2.0	%	EN 459-1	Expansibility		≤ 2.0	mm	EN 459-1	Penetration		> 10 e < 50	mm	EN 459-1	Air content		≤ 5.0	%	EN 459-1	Setting time	Start	> 1	h	EN 459-1	End	≤ 15	Compressive strength (28 days)		≥ 5.0 e ≤ 15.0	MPa	EN 459-1
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Description of the product's application/use:	Used in the production of mortars for the rehabilitation of framed buildings, as well as in mortars for joint pointing, building adhesives, masonry construction, general and thermal flooring. It is also used in low-strength concretes. Natural Hydraulic Lime NHL 5 can be used both indoors and outdoors, in: • Masonry mortar • Rendering mortar • Floor mortar Pre-mix Natural Hydraulic Lime NHL 5 with the aggregate, then add water in the appropriate amount to achieve good workability.																																																																			
Placing on the market / Rules of application in the market / Technical rules of the product:	EN 459-1:2010 Certificate: 1328 (CERTIF) - 1328-CPR-0215																																																																			
Quality control	Not applicable																																																																			
Special delivery conditions:	Not applicable																																																																			
Components and substances to declare:	The product does not contain substances included in the 'Candidate List of Substances of Very High Concern (SVHCs) for authorisation' in concentrations exceeding the registration thresholds set by the European Chemicals Agency (ECHA), i.e., greater than 0.1% by weight (w/w). The packaging materials include (kg/ton): <table><tr><td>Packaging material</td><td>Kg/ton</td></tr><tr><td>Paper</td><td>8.71E-01</td></tr><tr><td>Plastic</td><td>4.83E-01</td></tr><tr><td>wood</td><td>5.12E+00</td></tr></table>	Packaging material	Kg/ton	Paper	8.71E-01	Plastic	4.83E-01	wood	5.12E+00																																																											
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Where explanatory material may be obtained:	Natural Hydraulic Lime NHL 5 is available for sale to the general public. For product information, visit https://www.secil.pt .
History of the LCA studies:	-

1.9. Calculation rules of the LCA

Declared unit:	1000 kg of Natural Hydraulic Lime NHL 5
System boundaries:	The assessed system includes modules A1-A3 (product stage). A more detailed description of the system boundary is presented in Section 2.1.
Criteria for the exclusion:	In conducting the LCA, the processes considered include the extraction and processing of natural raw materials, the transport of secondary raw materials, the production of auxiliary materials, and the energy consumed in the manufacture of Natural Hydraulic Lime NHL 5. Since the raw stone (marl and limestone) is the main raw material, the extraction and processing of natural raw materials, as well as the transport of secondary raw materials (waste from other industries), were also taken into account. The waste management processes generated during lime production (up to the point at which the waste status ceases) were considered, for which inventory data are available. Processes not included in the elaboration of the EPD for Natural Hydraulic Lime NHL 5 are covered by the exclusion criteria defined in EN 15804:2012+A2:2019+AC and the RCP –Base Model, document, namely when their mass is less than 1% of the total mass of inputs, and when the total input mass of the unit processes does not exceed 5% of the total mass for the considered module, for example module A1-A3. In the LCA of Natural Hydraulic Lime NHL 5, the energy and water consumption of administrative areas, as well as the generation of wastewater and waste from these areas, were excluded from the system boundary. Additionally, environmental loads associated with the construction and maintenance of infrastructures and equipment (capital goods) were also excluded.
Assumption and limitations:	The results of the environmental impacts and other indicators presented in this EPD refer to the year 2023.
Quality and other characteristics about the information used in the LCA:	The quality of the inventory data was assessed considering the criteria from the Product Environmental Footprint (PEF) Category Rules, as indicated in Table E.2 (Data quality and criteria from the Product Environmental Footprint Category Rules) of EN 15804:2012+A2:2019+AC, and based on the recommendations of the RCP – Base Model documents. The data quality was generally classified between fair and good on a five-level qualitative scale ranging from very poor to very good, in accordance with data quality requirements regarding temporal, geographical, and technological representativeness. The information related to the production of Natural Hydraulic Lime NHL 5 is less than five years old, mostly based on primary data collected directly from SECILTEK, S.A. For the operations associated with the manufacturing process of Natural Hydraulic Lime NHL 5, real and specific data from the production unit were used. Information for background processes not provided by SECIL and over which SECIL has no influence was obtained from generic data available in the Ecoinvent v3.9.1 database. These datasets were selected to ensure geographical and technological coverage compliant with the data quality criteria set out in Annex E of EN 15804:2012+A2:2019. The dataset used to model electricity production was adapted to the national context. The electricity mix was updated to the year 2023, using information from Redes Energéticas Nacionais (REN), the Entidade Reguladora dos Serviços Energéticos (ERSE), and the Direção-Geral de Energia e Geologia (DGEG), in order to obtain the most up-to-date results regarding the environmental impacts

	associated with the Portuguese electricity grid. The GHG emission from electricity was 0,361 kg CO ₂ eq/kWh.
Allocation rules:	To determine the inputs and outputs associated solely with the production of Natural Hydraulic Lime NHL 5, the unit process subdivision procedure was first adopted, following the recommendations of the RCP – Base Model document. Thus, only the operations related to the production of the product under study were considered, while the operations specific to the other products (NHL 2, NHL 3,5 e HL 5) were excluded. Subsequently, for the included operations, an allocation procedure based on the mass of the different products produced was applied.
Software used for the assessment:	SimaPro, version 9.5.0.2
Background database used for the LCA:	Ecoinvent database version 3.9.1 published in March 2023; “cut-off” approach.
Comparability of EPD for construction products:	The EPD of construction products and services cannot be comparable in case they are not produced according to EN 15804 and EN 15942 and according to the comparability conditions determined by ISO 14025.

1.10. Use of the average environmental performance

Not applicable.

1.11. Technical information for Reference Service Life (RSL)

Not applicable.

2. CORE ENVIRONMENTAL IMPACT INDICATORS

2.1. Description of the system boundaries

(✓ = included; ND = module not declared)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction and demolition	Transport	Waste process	Disposal	Reuse, recovery, potential recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
✓	✓	✓	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Production Stage, A1-A3

In the A1-A3 module (production stage) of Natural Hydraulic Lime NHL 5, the extraction and processing of primary (natural) raw materials, production of secondary raw materials, and the transport of raw materials, additives, fuels, and electricity to the production facility are considered.

Module A1 includes the extraction of limestone and marl. Limestone is quarried in Carreirancha - Alqueidão da Serra, with blasting operations using explosives. Marl is extracted from a quarry located in Maceira using a hydraulic hammer. The excavation is carried out using a diesel-powered excavator.

Regarding transport (module A2), the raw materials are delivered to the facility by road using a 48-ton truck for marl and a 26-ton truck for limestone, covering distances of 3.6 km and 20.5 km respectively.

The production stage of the product includes the following phases:

- Crushing
- Furnaces for firing

- Hydration and milling
- Grinding
- Bagging, palletizing and wrapping
- Shipping

Natural Hydraulic Lime NHL 5 is a lime with hydraulic properties, produced by the burning of more or less clayey or siliceous limestones and reduced to powder by slaking, with or without grinding. It has the property of setting and hardening when mixed with water and by reaction with carbon dioxide from the air (carbonation). The hydraulic properties result exclusively from the special chemical composition of the natural raw material. Grinding agents up to 0.1% are permitted. Natural hydraulic lime contains no other additives.

The scope of use of these limes includes the preparation of construction mixtures and the manufacture of construction products, including both structural and non-structural products. These limes are also used in the preparation of mixes for brick and block laying, rendering, and stucco work, in soil stabilization or improvement, as well as in the preparation of bituminous mixtures (asphalt).

Crushing

Limestone and marl from the quarries are stored in a stockyard and then transported by mechanical shovels to a rotary conveyor hopper feeding the jaw crusher.

Upstream of the jaw crusher, a clay separations screen removes the clay fraction from the marl and limestone, sending it outside the plant.

The jaw crusher has a capacity of 70 t/h, reducing aggregates to a particle size between 10 and 80 mm.

Downstream of the crusher, there is another screening that separates the crushed aggregates with a particle size of approximately less than 20 mm. This fraction, called sarrisca, is reused in the grinding, with the excess being sent back to the quarry.

The crushed marl and limestone, with a particle size greater than 20 mm and less than 80 mm, are transported by conveyor belt to the marl and limestone hoppers, with capacities of 300 t and 250 t, respectively. Determined amounts of each of these aggregates, whose mixture is called raw stone, are dosed with petroleum coke and subsequently sent to the calcination kilns, where they are fired.

The entire discharge and crushing area is dust-controlled by a bag filter with a capacity of 5.000 m³/h and an efficiency of 80%.

Furnaces for firing

Baking is carried out in six static vertical kilns, each 10 m high and 3m in diameter, dating from 1921.

Each kiln originally had a 27 m high natural draft chimney. However, these natural draft chimneys are no longer in use, as in February 2003 a dust filtration system and a single 30 m high chimney, common to all six kilns, were installed.

The baking process in batch-operated, functioning in cycles.

At the beginning of each baking cycle, the kiln is loaded with 8000 kg of raw stone mixed with petroleum coke, through the feed chutes.

The raw stone (marl and limestone) intended for the kilns is dosed through an automatic dosing system, consisting of continuous weighing scales, and transported to a feed hopper of a bucket elevator.

Simultaneously, the petroleum coke is dosed in another automatic dosing system, also consisting of continuous weighing scales, and sent to the feed hopper of the bucket elevator, where it is mixed with the raw stone.

The mixture of raw stone and petroleum coke is transported by the bucket elevator and subsequently distributed, via conveyor belt, to the different kilns

After loading, the forced-air blower is turned on, thus supplying the air necessary for the combustion of the petroleum coke.

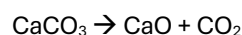
The baking of the raw stone is carried out at approximately 900 °C.

The following reactions occur:

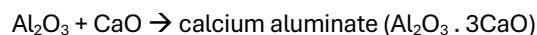
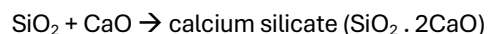
$\text{CaCO}_3 + \text{clay (8-20\%)} \rightarrow \text{hydraulic lime}$

The process involves the following phases:

- at 800-850°C, decomposition of limestone:



- at 900°C, reaction of silica and alumina from the clay with calcium oxide, forming silicates and aluminates:



The end of the baking cycle is determined when the exhaust gases reach 300 °C, as measured by temperature probes placed in each kiln chimney at the connection point to the common chimney duct. The forced-air blower is turned off, and the charge is immediately discharged to allow the start of a new baking cycle.

The baking cycles in the six kilns are staggered.

During discharge, the hydraulic control grates are opened, filling wagons which are then transported by an electric cart to the bucket elevator feeding the kiln crusher. Normally, five wagons are removed per baking cycle.

The production capacity of the six kilns is 14 t/h, with an installed thermal power of 1 MW.

Before entering the storage hoppers, the fired stone passes through a hammer mill, reducing its particle size to approximately 40 mm.

The various types of fired stone are stored in hoppers and subsequently transported via conveyor belts to the grinding silos. The storage capacity of the hoppers is approximately 6.000 t.

The kiln area is equipped with a dust collection system based on bag filters, with an efficiency of 98%: it consists of 12 filtration modules, each module containing 78 filter bags, arranged in 6 rows of 13 bags each, and an exhaust chimney 30 m high and 1.5 m in diameter, shared by the six existing vertical kilns. Additionally, at the lower part of the kilns (discharge area), there is a dust filter with a capacity of 10.000 m³/h and an efficiency of 80%.

Hydration, milling and grinding

The grinding of the hydraulic lime raw materials is carried out in two stages: pre-grinding in a hammer mill with a production capacity of 25 t/h, and secondary grinding in a ball mill with a production capacity of 14 t/h.

The grinding cycle begins with filling the fired stone silo. At the base of this silo, there is a rotary plate volumetric feeder that supplies the hydrator. This equipment allows the proper dosing and homogenization of the fired stone with the stoichiometric amount of water required for the hydration reaction:



The hydrator has an hourly capacity of processing up to 16 t of fired stone with a maximum of 3 m³ of water.

The hydrated stone is transported via a bucket elevator to the hydrated stone silo. For natural hydraulic limes (NHL 2; NHL 3.5 e NHL 5), no additions are made, and the hydrated stone is sent to the hammer mill, followed by the mixing silo, and finally to the ball mill. For HL 5, a predetermined amount of sarrisca is added on the conveyor belt connecting the hydrated stone silo to the hammer mill. The material then follows the same NHL circuit.

In the ball mill, the final particle size of the hydraulic lime is achieved. Downstream of the ball mill, a cyclone separator removes coarse particles, returning them to the mill. A bag filter collects the fine material from the mill, sending it to the drag conveyor, where it is combined with the fine material from the cyclone separator, and transported to the hydraulic lime silos.

Bagging, Palletization and wrapping

Hydraulic lime can be dispatched in 25 kg paper bags or in bulk, loaded directly into tanker trucks.

Transportation to the bagging station is carried out via drag conveyors and bucket elevators.

The rotary bagger has a filling capacity of 1350 bags per hour (54 t/h) and is equipped with four filling heads.

Shipping

Hydraulic lime is shipped as follows:

- Direct bulk loading into tanker trucks;

- Loading on pallets, with or without plastic wrapping.

2.1.1. Justification for the exemption to declare modules C and D

Natural Hydraulic Lime NHL 5 meets all the requirements of EN 15804:2012+A2:2019+AC and EN 16908:2017+A, to be considered as having a cradle-to-gate life cycle, namely:

- the hydraulic lime is used in mixtures with other materials, resulting in homogeneous products that are chemically and physically bound together, making physical separation at the end of life impossible;
- the physical and chemical transformation processes that the lime undergoes throughout its life cycle cause the material to no longer be identifiable at the end of that cycle;
- the lime does not contain biogenic carbon.

2.2. Core environmental impact indicators

	Global warming potential - total;	Global warming potential fossil;	Global warming potential - biogenic;	Global warming potential land use and land use change;	Depletion potential of the stratospheric ozone layer;	Acidification potential;
	GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP
Unit	kg CO ₂ eq.	kg CO ₂ eq.	kg CO ₂ eq.	kg CO ₂ eq.	kg CFC 11 eq.	mol H ⁺ eq.
Modules A1-A3	4.69E+02	4.79E+02	-1.08E+01	2.21E-01	1.26E-05	2.31E+00

LEGEND:

 Product stage

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).

	Eutrophication potential aquatic freshwater;	Eutrophication potential aquatic marine;	Eutrophication potential terrestrial;	Formation potential of tropospheric ozone;	Abiotic depletion potential for non-fossil resources;	Abiotic depletion potential for fossil resources potential;	Water (user) deprivation potential;
	EP-freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals&metals	ADP-fossil	WDP
Unit	kg P eq.	kg N eq.	mol N eq.	Kg CO ₂ eq.	kg Sb eq.	MJ, P.C.I	m ³ World eq. deprived
Modules A1-A3	4.99E-04	2.28E-01	2.49E+00	1.97E+00	6.18E-06	2.67E+03	1.86E+01

LEGEND:

 Product stage

P.C.I. – Net calorific value

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).

The results obtained for the indicators “Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)”, “Abiotic depletion potential for fossil resources potential (ADP-fossil)” and “Water (user) deprivation potential (WDP)” should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator

2.3. Additional environmental impact indicators

	Potential incidence of disease due to PM emissions	Potential Human exposure efficiency relative to U235	Potential Comparative Toxic Unit for ecosystems	Potential Comparative Toxic Unit for humans, cancer effects	Potential Comparative Toxic Unit for humans, not cancer effects	Potential soil quality index
	PM	IRP	ETP-fw	HTP-c	HTP-nc	SQP
Unit	Incidência de doença	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Modules A1-A3	1.56E-05	1.39E+00	1.31E+03	2.70E-08	9.87E-07	1.19E+03

LEGEND:

 Product stage

P.C.I. – Net calorific value.

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).

The impact indicator “Potential Human exposure efficiency relative to U235” focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators “Potential Comparative Toxic unit for ecosystems (ETP-fw)”, “Potencial Comparative Toxic Unit for humans, cancer effects”, “Potential Comparative Toxic Unit for humans, not cancer effects” and “Potential soil quality index” should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

2.4. Indicators describing resource use

	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Modules A1-A3	2.75E+02	0.00E+00	2.75E+02	2.67E+03	2.60E-06	2.67E+03

LEGEND:

 Product stage

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR);

P.C.I. – Net calorific value.

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).

	Secondary materials and fuels, and use of water			
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m ³
Modules A1-A3	2.92E+02	0.00E+00	0.00E+00	4.56E-01

LEGEND:

 Product stage

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels; Freshwater = use of the net freshwater value

P.C.I. – Net calorific value.

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).

2.5. Other environmental information describing different waste categories

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Modules A1-A3	2.26E-02	5.92E-01	1.02E-03

LEGEND:

 Product stage

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).
The characteristics that make waste hazardous are described in the applicable legislation in force, for example, in the European Waste Framework Directive.

2.6. Environmental information describing output flows

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Modules A1-A3	0.00E+00	4.75E-01	1.61E-01	1.54E+00

LEGEND:

 Product stage

Units expressed by declared unit (1000 kg of Natural Hydraulic Lime NHL 5).
The characteristics that make waste hazardous are described in the applicable legislation in force, for example, in the European Waste Framework Directive.

2.7. Information describing the biogenic carbon content at the factory gate

Biogenic carbon content*	Units**	Modules A1-A3 (results)
Biogenic carbon content in product	Kg C	Not applicable
Biogenic carbon content in accompanying packaging	Kg C	2.90E-03

* 1 kg biogenic carbon is equivalent to 44/12 kg of CO₂.
** This information can be omitted whenever the content of biogenic carbon in the product, or in the respective packaging, is less than 5% of the mass of the product, or the respective packaging.

3. REFERENCES

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