CHIMICA EDILE

ENVIRONMENTAL PRODUCT DECLARATION

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

DRY D1 NG

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ECO PLATFORM EPD VERIFIED

Summary

General Information

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): 2019:14, version 1.3.1
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.
Complementary PCR: C-PCR-001 Cement and building lime (EN 16908)
CPC Code: 3742

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Independent third-party verification of the declaration and data
According to ISO 14025:2006, via:
SGS ITALIA S.p.A.
is an approved certification body accountable for the third-party verification
The certification body is accredited by: ACCREDIA, certificate n.0005VV

Procedure for follow-up of data during EPD validity does not involve third party verifier.

Programme operator:

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EPDs within the same product category but registered in different EPD programmes 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.

CHIMICA EDILE

Company Information

In the early eighties, Chimica Edile s.r.l. dealt with plasters, mortars and lime paints, then at a certain point there was an intuition: to concentrate efforts in a particular direction, that of the use of expansive agents for cutting stone blocks in quarries. This was the turning point that, in a very short time, made the company grow into a world leader in the production of expansive mortar for use in quarries.

Chimica Edile s.r.l. is a company founded in 1981 from the spin-off of the parent company Edilmarket and from the founder's desire to diversify activities and dedicate himself to the research of materials that protect man and the environment.
From that moment, the first product line called the DRY D1 LINE was born. This is a new generation sintered calcium oxide-based shrinkage compensating agent. It is a single, easy-to-apply product with technically advanced functions for premixed and cement-based concrete with volumetric control. It acts by regulating the dimensional variations of the preparation due to shrinkage.
The products of the newly formulated DRY D1 family are inorganic and powdered. They are mainly heat-treated and granulometrically selected sintered calcium oxides with mineral additions obtained by means of special synthesis processes.

The products of the DRY D1 LINE are used for the manufacture of concretes; structural mortars with high performance and controlled volumetric stability, with modulated initial micro-expansion and almost no shrinkage in the long term; new-generation screeds that comply with all the new international standards.

The DRY D1 LINE consists of:

- DRY D1 C: agent with prevailing expansive action during the concrete hardening phase.
- DRY D1 NG: specific additive for shrinkage control.
- DRY M3 PLUS: shrinkage compensator based on sintered calcium oxide with a stable effect over time

Chimica Edile s.r.l. is present in four countries around the world, Itali, Argentina, Brazil and USA.

Registered and operational headquarters

Via Dei Maniscalchi – 58043 Castiglione della Pescaia – GR – Italy

Certifications

The company has also been certified to ISO 9001 quality standards since 1995 with the certification scope: “Design and production of: special dry premixed products for construction; non-explosive expansive products for demolition and cutting of rocks and concretes; expansive additives for mortars and concretes; lime-based products for restoration.

Product Information

DRY D1 NG

Specifically, the product subject of this study is DRY D1 NG unpacked, a specific additive/additive for the control of shrinkage; suitable for the preparation of concrete (CLS) for the realisation of jointless industrial floors with large-sized slabs (>20 m). Reduces the risk of cracking and reduces joint openings by more than 80%.
The main application segments of DRY D1 NG are:

1. Industrial floors
2. Normal and pressurised floors
3. Screeds
4. Concrete walls
5. Precast concrete
6. Cement pipe
7. Low shrinkage concrete

DRY D1 NG can be used with any reinforcement technology:

- Synthetic/metallic fibres
- Iron rods
- Wire mesh

The newly formulated DRY D1 NG is an inorganic powder product. It mainly consists of specially heat-treated and grain-selected calcium oxide.

Technical Information

Product Identification Technical Data

Table 1 - Technical data.

Appearance	Dust
Colour	Beige – light beige– grey – light brown
Smell	Odourless
pH	12,3 (sutured solution Ca $(OH)_2$ a 20°C
Chloride Content	Absent
Melting Point	> 2400°C
Relative density	3,3
Main Action	To compensate the hygrometric shrinkage of cement, for the production of special concretes with controlled, reduced or no shrinkage.
Secondary Action	Improvement of the degree of impermeability of concrete products. Increased mechanical strength.
Conservation	12 months in original sealed packaging

Physical Properties

Table 2 - Physical properties.

		DRY D1 NG
Average Density	g/cm^3	~ 3 (a 20°C)
Pile Density	g/cm^3	1,2 – 1,5
Residue on # 150	%	< 5
Residue on # 75	%	20 – 40
Loss on Fire	%	< 5
Total Alkalinity (expressed as CaO)	%	> 85

Quality Control

Reactivity in water - water/product ratio = 3:1 (according to method EN 459-2 mod.)

Table 3 - Reactivity in water.

Reaction Time	DRY D1 NG	
	Temperatura (°C)	**IR***
0'	20	
5'	30 – 40	
10'	40 – 60	700 – 1050
15'	45 – 70	1150 – 1750
20'	50 – 72	
25'	55 – 75	
30	60 - 78	2800 - 4000

Dosage and Instruction of Use

Dosage depends on the "specific performance" required of the concrete. It is generally between 2.5 and 3.5 % of the cement dosage, 8-15 kg/m³ of CLS. DRY D1 NG can be added together with the aggregates in the concrete mixing plant or directly on site, and is compatible with any constituent of the mix.

Packaging

The product is supplied:

- Unpackaged (the declared unit of this EPD)
- In bags, 5, 10 or 20kg (not included in this study)
- In big bags, 500 or 750kg (not included in this study)

Storage

DRY D1 NG must be stored in a dry place, avoiding contact with the air. For quality purposes, the product's shelf life, under the conditions described above, is not less than 12 months.

Production process

The operational phases for product preparation are listed below, step by step:

- After entering the company, the raw materials are stored in external silos, which are directly connected to the installations within the company;
- From the console, the product formula is set using the keypad of each system's electronic microcontroller;
- At this point the facility will put the raw materials into the mixer by taking them from the external silos, thus starting the mixing process;

- When mixing is complete, the total weight value of the mixer is checked on the display to be equal to the formula of the product in question;
- The facility will start the material unloading phase using the bucket elevator into the bagging machine hopper (the purpose of the bagging machine is to dose by mechanical weighing the expected amount of material to be bagged (bags or big bags) by taking it from the hopper);
- If the product is sold unpacked, the material is previously bagged in big bags for storage in the warehouse, and when sold, it is loaded into a loading hopper and loaded into a tanker truck.

Figure 1 shows the details of the production process, specifically, facility 1 is presented and shows how the product is stored in the big bag before the shipment to the costumer unpacked.

Figure 1 - Production process detail.

LCA Information

For the EPD declaration, the declared unit of matter and energy flows was referred to as:

1 kg of DRY D1 NG unpacked

Below the process flow is shown.
Raw materials come from Italy and Argentina (A1 and A2). The process of phases A3 (Manufacturing) is done in Chimica Edile s.r.l. factory in Castiglione della Pescaia.

The data used refer to the calendar year 2022. The LCA study was carried out during the year 2023.

LCA phases

The approach is “cradle to gate” (A1–A3) with modules C1–C4, module D and optional modules (A4).

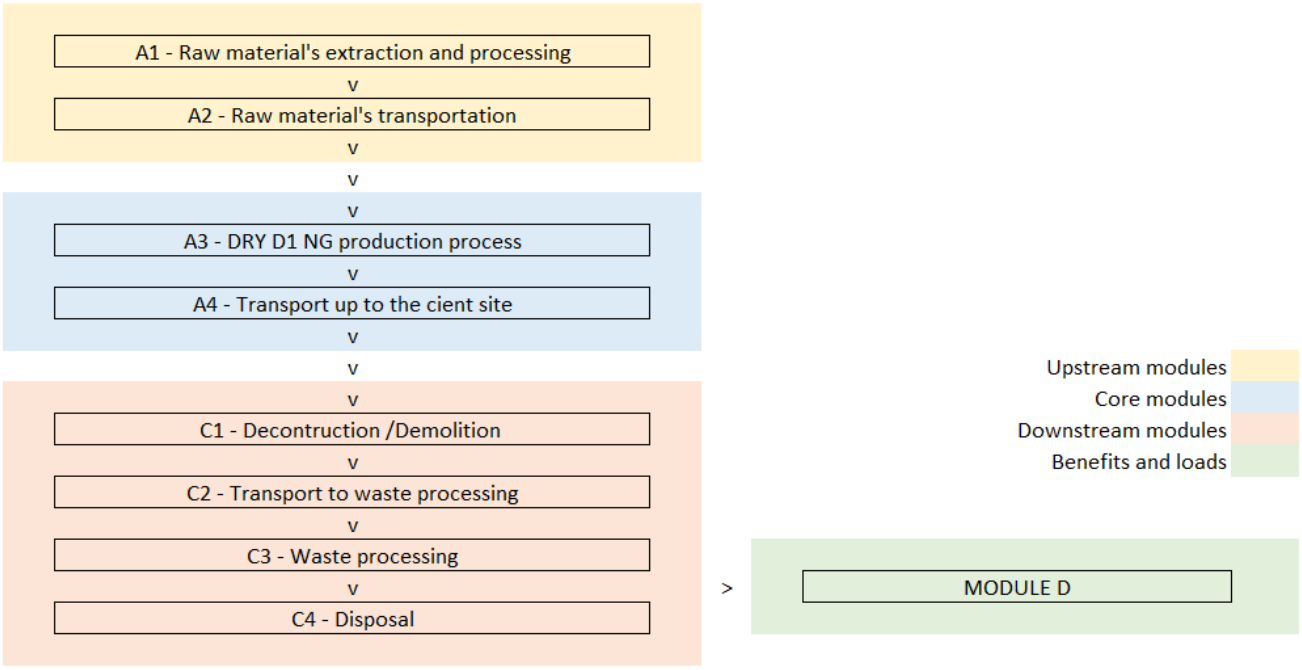

Figure 2 - System diagram.

The mandatory modules are:

- *A1 - Raw materials*

This phase includes the production of the raw material required for 1kg of DRY D1 NG unpacked. At this phase, the raw materials that make up the product are purchased by Chimica Edile s.r.l. from company suppliers.
Electricity is accounted for by Residual Mix 2022 for Italy, published by AIB for the year 2022 (AIB 2023). The GWP-GHG emission coefficient for one kWh of the residual mix is 0.64 kg CO2 eq.

- *A2 – Transport*

The transport of raw materials to the Chimica Edile s.r.l. production site is characterized in this phase. The transportation distance was calculated using Google Maps for lorry transport and SeaRoutes for the container ship.

- *A3 – Manufacturing*

The processes included in the "core" A3 phase of the product considered are divided as shown below in Table 4.

Table 4 - List of A3 production processes.

Process Name	Code	N.	Activities included in the process
Input	A3	1	Raw material input
DRY D1 NG Production		2	Storage in silos
		3	Quantity setting in the implant console display
		4	Starting raw material mixing
Packaging		5	Direct packing from the mixing plant

Production outputs, if any, should also be considered at this stage. For the case study was considered:

- Air emissions
- Waste related to raw material packaging

- *C1 – C4 End of Life*

The end-of-life phase includes dismantling (C1), transportation of the waste materials to the factory (C2), and any processes of reuse or transfer to end-of-life treatment (C3-C4).

For the product, being a specific additive for the control of shrinkage to be inserted during the preparation of concretes, it is essentially impossible to hypothesise an end-of-life scenario in which the product is recovered as it is. Therefore, the end-of-life scenario exemplified in the life cycle envisages recovery, but in the form of inert material, mainly in the cementitious material category.

Since the end-of-life phases of the product (C1-C4) had to be included in the study, phase C1, i.e. dismantling, was considered first. The end-of-life of the product considered coincides with the nominal life of the construction, as it involves the demolition of the construction or part of the construction in which the additive itself is present.
If the end of life corresponds to the demolition of the entire structure, as seen in section 1.1.5, only between 2.5% and 3.5% of the additive must be added to the cement in the preparation phase, a very low percentage; if, on the other side, we are in the situation of the "end of life" of a part of the structure, the percentage of the additive will be even lower compared to the total of the structure.
The impact of the dismantling phase is assumed to be attributed to the entire artefact since the additive cannot be separated from the other components, so the C1 phase is zero and therefore negligible.

With regard to phase C2, i.e. the transport of demolition waste, an average distance of 100km was estimated and modelled with the C2 process - transport, freight, lorry 16-32 metric ton, EURO5 {RER}| transport, freight, lorry 16-32 metric ton, EURO5 | Cut-off, S.

Phase C3, the treatment of waste for re-use, recovery and/or recycling, is included because, as reported earlier, according to EUROSTAT 2020 97.98% of a construction material waste is recycled. The process modelled within the software include crushing processes.

Finally, phase C4, the disposal of the final product, was modelled considering EUROSTAT (2020 data) data for landfilling (2.01%) and incineration (0.01%).

- *D - Reuse/Recovery/Recycling potential*

Phase D, reuse/recovery/recycling potential, contains credits from the recycling of the product in module C3. The product can be collected and recycled for use in substitution of virgin raw aggregates. In the life cycle studied only D1 phase has been considered. The following contributions were calculated as:

- Y (material yield): a yield of 99% was taken into account, imputing a 1% loss of load during the processing. A choice motivated by the geometry of the facility, the nature of the material, and the type of process which involves only the mixing of the powder components, in the absence of chemical reactions and production of processing waste;
- $M_{MR\ out}$: DRY D1 NG is considered as a contruction material, which is recycled for a 97.98%, according to EUROSTAT 2020;
- $M_{MR\ in}$: having no recycled material input, this data is zero, since the raw materials used are virgin;
- $E_{MR\ after\ EoW\ out}$: a dataset of the virgin raw material was used;
- $E_{VM\ Sub\ out}$: a dataset of a recycled of raw material was used (only crushing peocess);
- $\frac{Q_{Rout}}{Q_{sub}}$: considered as 1.

The optional module is:

- *A4 - Downstream transport*

The stage includes transportation from Chimica Edile s.r.l. headquarters to the customer's destination. To calculate the average transportation scenario, all unpacked orders in the reference year (2022) were surveyed and the following data were analyzed and processed:

- the kg sent per job order
- the destination (and thus distance) covered by each shipment
- the mode of shipment

Table 5 - Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation.

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	IT	IT	IT	-	-	-	-	-	-	-	-	IT	IT	IT	IT	IT
Specific data used	> 90%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation products	0%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation sites	0%				-	-	-	-	-	-	-	-	-	-	-	-	-

Cut-off criteria

Criteria for the exclusion of inputs and outputs (cut-off rules) in the LCA, information modules and any additional information are intended to support an efficient calculation procedure. The cut-off criteria fall in the limits required by the PCR 2019:14 VERSION 1.3.1 – CONSTRUCTION PRODUCTS.

Allocation procedures

In this study, all data are referred to 1 kg of product and electricity is allocated to the specific production line.

Data quality

The data used for the environmental impact assessment are:

- Specific data: data collected at Chimica Edile s.r.l. site and referred to the year 2022 for the core activities (consumption, distances etc) and datasets from Ecoinvent 3.9.1;
- Proxy data contribute to the final impacts is 0%, due to the fact that specific data has always been selected.

Content declaration

Table 6 - Content declaration for raw materials.

Component	Weight (kg)	Weight % (Versus the product)	Biogenic material, weight (kg)	kg C/kg
Calcium Oxide (Italy)	0,25	25	0,00E+00	0,00E+00
Calcium Oxide (Argentina)	0,65	65	0,00E+00	0,00E+00
Calcium Carbonate	0,10	10	0,00E+00	0,00E+00

No dangerous substances from the candidate list of SVHC for Authorisation have been used in the production of the product studied.
As REACH regulation, the product is classified as dangerous with hazard indication H315, H318 and H335.

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

Table 7 - Mandatory indicators for potential environmental impact.

Results per functional or declared unit											
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO2 eq.	6,55E-02	1,90E-01	2,40E-04	**2,56E-01**	6,99E-02	0,00E+00	1,89E-02	2,41E-03	1,15E-04	-5,21E+00
GWP-biogenic	kg CO2 eq.	6,65E-03	1,54E-03	3,59E-05	**8,22E-03**	9,54E-04	0,00E+00	2,58E-04	2,06E-04	5,77E-05	-6,83E-01
GWP-luluc	kg CO2 eq.	1,29E-04	1,22E-04	1,07E-09	**2,52E-04**	3,40E-05	0,00E+00	9,20E-06	2,80E-07	2,28E-08	-4,54E-03
GWP-total	kg CO2 eq.	7,23E-02	1,91E-01	2,76E-04	**2,64E-01**	7,09E-02	0,00E+00	**1,92E-02**	**2,62E-03**	**1,73E-04**	**-5,90E+00**
ODP	kg CFC 11 eq.	1,71E-09	3,11E-09	1,82E-13	**4,82E-09**	1,52E-09	0,00E+00	4,10E-10	5,62E-11	3,98E-12	-1,40E-07
AP	mol H+ eq.	3,56E-04	3,22E-03	4,48E-08	**3,58E-03**	2,27E-04	0,00E+00	6,14E-05	7,05E-06	7,65E-07	-3,19E-02
EP-freshwater	kg P eq.	1,56E-05	1,03E-05	6,24E-10	**2,59E-05**	4,87E-06	0,00E+00	1,32E-06	3,57E-07	5,83E-09	-2,04E-03
EP-marine	kg N eq.	7,05E-05	8,32E-04	1,02E-07	**9,03E-04**	7,81E-05	0,00E+00	2,11E-05	1,38E-06	3,35E-07	-6,37E-03
EP-terrestrial	mol N eq.	8,20E-04	9,15E-03	2,26E-07	**9,97E-03**	8,25E-04	0,00E+00	2,23E-04	1,48E-05	3,60E-06	-7,33E-02
POCP	kg NMVOC eq.	2,85E-04	2,61E-03	7,35E-08	**2,90E-03**	3,39E-04	0,00E+00	9,17E-05	6,57E-06	1,41E-06	-2,43E-02
ADP-minerals &metals**	kg Sb eq.	8,90E-01	2,49E+00	6,44E-05	**3,38E+00**	9,88E-01	0,00E+00	2,67E-01	3,62E-02	2,90E-03	-7,63E+01
ADP-fossil**	MJ	8,55E-07	3,88E-07	8,03E-12	**1,24E-06**	2,24E-07	0,00E+00	6,04E-08	2,66E-09	1,22E-10	-8,21E-05
WDP**	m3 eq.	5,33E-02	8,38E-03	6,15E-07	**6,17E-02**	4,08E-03	0,00E+00	1,10E-03	6,52E-04	1,08E-05	-4,60E+00

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-minerals&metals = 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 1: 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.*

***Disclaimer 2: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.*

Potential environmental impact – additional mandatory and voluntary indicators

Table 8 - Additional mandatory indicators and voluntary indicators.

Results per functional or declared unit											
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	6,49E-02	1,90E-01	2,53E-04	**2,55E-01**	6,97E-02	0,00E+00	1,88E-02	2,42E-03	1,15E-04	-5,14E+00
Particulate matter emission	Desease incidence	3,62E-09	1,02E-08	6,09E-13	**1,38E-08**	5,54E-09	0,00E+00	1,50E-09	3,19E-11	1,88E-11	-2,71E-07
Ionising radiation*	Kg U235 eq.	5,84E-03	1,94E-03	1,79E-07	**7,79E-03**	1,32E-03	0,00E+00	3,57E-04	2,22E-04	2,78E-06	-8,93E-01
Ecotoxicity (freshwater)**	CTUe	1,52E+00	1,11E+00	7,07E-05	**2,63E+00**	4,21E-01	0,00E+00	1,14E-01	3,54E-03	1,07E-03	-1,45E+02
Human toxicity, cancer effects**	CTUh	1,48E-11	3,74E-11	2,60E-14	**5,22E-11**	1,68E-11	0,00E+00	4,53E-12	2,48E-13	4,80E-14	-1,27E-09
Human toxicity, non-cancer effects**	CTUh	8,17E-10	6,82E-10	6,97E-14	**1,50E-09**	2,87E-10	0,00E+00	7,75E-11	2,94E-12	5,69E-13	-7,71E-08
Land use related impacts / soil quality**	Pt	1,97E-01	8,58E-01	1,34E-04	**1,05E+00**	5,87E-01	0,00E+00	1,59E-01	3,73E-03	5,98E-03	-1,93E+01

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[1] 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.

Use of resources

Table 9 - Indicators for resources use.

Results per functional or declared unit											
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	8,84E-02	2,02E-02	2,43E-06	**1,09E-01**	1,19E-02	0,00E+00	3,21E-03	6,24E-04	3,48E-05	-5,29E+00
PERM	MJ	2,45E-02	6,20E-03	5,43E-07	**3,07E-02**	3,43E-03	0,00E+00	9,27E-04	6,06E-04	2,31E-05	-3,00E+00
PERT	MJ	1,13E-01	2,64E-02	2,98E-06	**1,39E-01**	1,53E-02	0,00E+00	4,14E-03	1,23E-03	5,79E-05	-8,29E+00
PENRE	MJ	9,60E-01	4,83E-01	6,86E-05	**1,44E+00**	2,16E-01	0,00E+00	5,84E-02	3,93E-02	3,09E-03	-7,83E+01
PENRM	MJ	4,39E-03	2,16E+00	0,00E+00	**2,17E+00**	8,34E-01	0,00E+00	2,25E-01	0,00E+00	0,00E+00	-3,78E+00
PENRT	MJ	9,65E-01	2,65E+00	6,86E-05	**3,61E+00**	1,05E+00	0,00E+00	2,84E-01	3,93E-02	3,09E-03	-8,20E+01
SM	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
RSF	MJ	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
NRSF	MJ	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
FW	m^3	1,37E-03	2,78E-04	1,13E-07	**1,64E-03**	1,41E-04	0,00E+00	3,80E-05	1,90E-05	3,43E-06	-1,30E-01

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 production

Table 10 - Indicators for waste production.

Results per functional or declared unit											
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed – HW	kg	3,44E-06	1,42E-05	3,39E-10	**1,77E-05**	6,29E-06	0,00E+00	1,70E-06	1,23E-07	1,42E-08	-2,55E-04
Non-hazardous waste disposed – NHW	kg	5,56E-03	6,59E-02	2,29E-04	**7,17E-02**	4,82E-02	0,00E+00	1,30E-02	7,45E-05	2,01E-02	-5,16E-01
Radioactive waste disposed - RW	kg	1,55E-06	4,60E-07	4,17E-11	**2,01E-06**	3,21E-07	0,00E+00	8,67E-08	5,60E-08	6,33E-10	-2,29E-04

Output flows

Table 11 - Indicators for output flows.

Results per functional or declared unit											
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total 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
Material for recycling	kg	0,00E+00	0,00E+00	0,00E+00	**0,00E+00**	0,00E+00	0,00E+00	0,00E+00	9,80E-01	0,00E+00	0,00E+00
Materials for energy recovery	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
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	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	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

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.

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