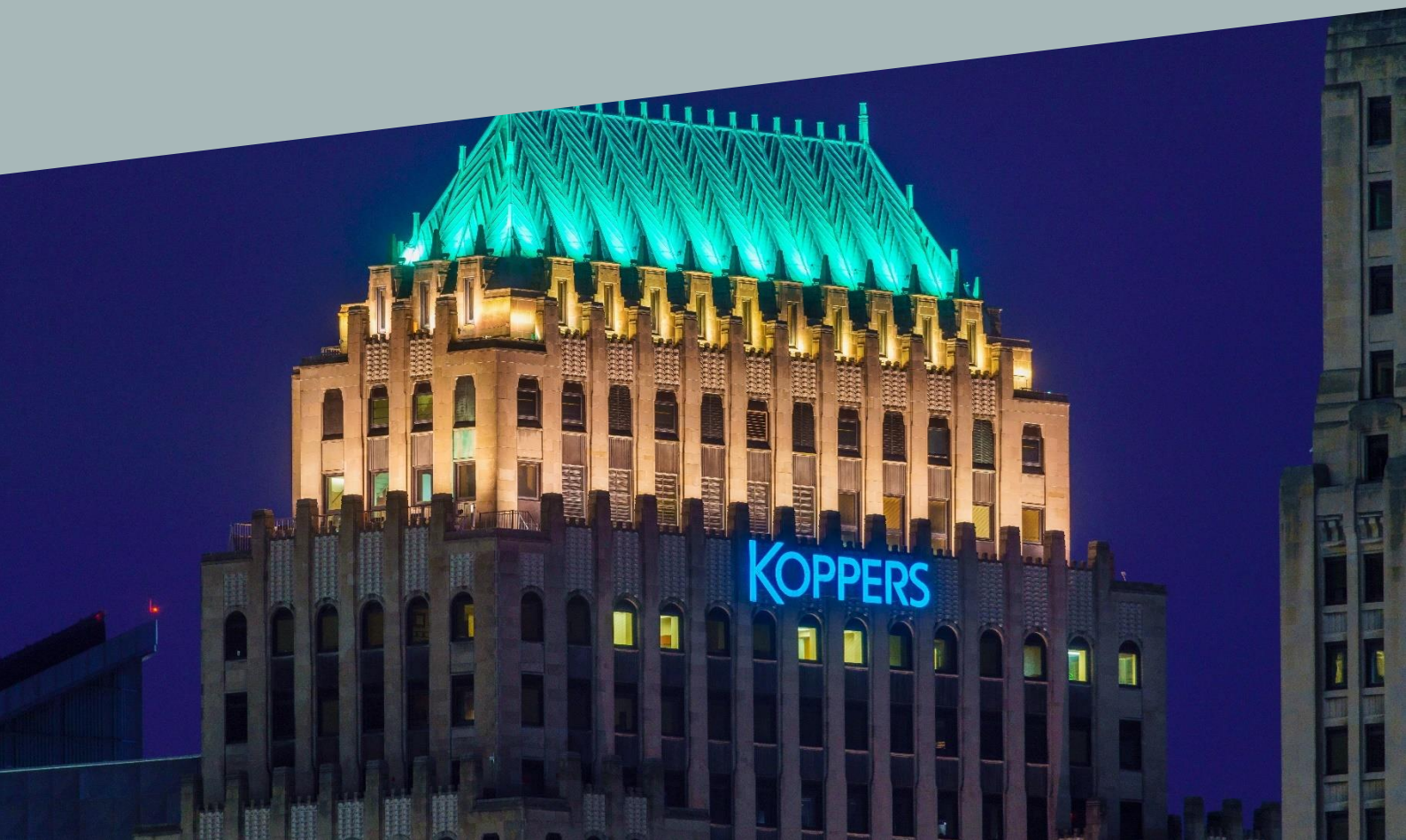


Owner: Koppers Performance Chemicals
No.: MD- 24135 -EN
Issued: 19-02-2025
Valid to: 19-02-2030

3rd PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804



**Protim Solignum Limited trading as
Koppers Performance Chemicals**

Lingfield Way
Darlington
County Durham, DL1 4QA
United Kingdom
VAT: 3037845



Issued:
19-02-2025

Valid to:
19-02-2030

Basis of calculation

This EPD is developed and verified in accordance with the European standard EN 15804+A2.

Comparability

EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity

This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use

The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type

- Cradle-to-gate with modules C1-C4 and D
- Cradle-to-gate with options, modules C1-C4 and D
- Cradle-to-grave and module D
- Cradle-to-gate
- Cradle-to-gate with options

Programme

EPD Danmark
www.epddanmark.dk



- Industry EPD
- Product EPD

Declared product(s)

Celcure C65, Celcure M65, Celcure MC-T3, Celcure MC-T4, Protim ME7 Clear, Protim ME7-50, FlamePro 705, Solignum All Around Clear Conc 15 and Process Oil 203

Number of declared datasets/product variations: 9

Production site

The 9 products are produced at the following 5 different production sites in Europe:

Darlington, Great Britain
Helsingborg, Sweden
Osby, Sweden
Kalmar, Sweden
Tisselt, Belgium

Use of Guarantees of Origin

- No certificates used
- Electricity covered by GoO
- Biogas covered by GoO

Declared/ functional unit

1 kg product

Year of production site data (A3)

2023

EPD version

1st version

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

- internal
- external

Third party verifier:

Mirko Miseljic

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Product information

Product description

The main product components for the products Celcure C65, M65, MC-T3 and MC-T4 are shown in the table below.

Material	Weight-% of declared product			
	Celcure			
	C65	M65	MC-T3	MC-T4
Copper Carbonate	17,27%	17,27%	18,18%	36,36%
Aminoethanol	31%			
Quaternary Ammonium Compounds	5,75%	5,75%		0,8%
Tebuconazole			2%	0,8%
Water	40-50%	40-50%	60-70%	40-50%
Other ingredients	5-10%	5-10%	10-20 %	10-20 %
Total	100%	100%	100%	100%

Celcure C65 and **Celcure M65** are water-based wood preservatives which contain a copper-based fungicide, and two organic co-biocides (quaternary ammonium compounds) as active substances. Celcure C65 and M65 are intended for industrial use as a wood preservative (PT8) for softwood species. Preserved wood is protected against wood rotting fungi, wood destroying insects, and termites for Use Class 1-4.

Celcure MC-T3 is a water-based wood preservative which contains a copper-based fungicide, and an organic co-biocides (azole) as active substances. Celcure MC-T3 is intended for industrial use as a wood preservative (PT8) for softwood species. It preserves wood against wood rotting fungi, wood destroying insects, and termites for Use Class 1-3.

Celcure MC-T4 is a water-based wood preservative which contains a copper-based fungicide, and two organic co-biocides (an azole and a quaternary ammonium compound) as active substances. Celcure MC-T4 is intended for industrial use as a wood preservative (PT8) for softwood species. Preserved wood is protected against wood rotting fungi, wood destroying insects, and termites for Use Class 1-4.

For FlamePRO 705, Process Oil 203, Solignum All Around Clear Conc 15 and Protim ME7 Clear and Protim ME7-50 the main product components are shown in the following table.

Material	Weight-% of declared product			
	Flame PRO 705	Process Oil 203	Solignum All Around Clear Conc 15	Protim ME7 Clear/Protim ME7-50
Flame retardent	100%			
Drying oil		100%		
Tebuconazole			1 - 5%	<1 - 5%
Permethrin			1 - 5%	<1 - 5%
Propiconazole			1 - 5%	<1 - 5%
Solvent and emulsifiers			60 - 80 %	40 - 50 %
Water			10 - 20 %	40 - 80 %
Total	100%	100%	100%	100%

Protim ME7 Clear and **Protim ME7-50** are water-based, micro-emulsion, soluble concentrate (SL) wood preservatives which contains two fungicides and an insecticide. Protim ME7 & ME8 are heavy metal and boron-free. They are used for preventative treatment against wood rotting fungi, wood destroying insects (house longhorn beetle) and termites. It is intended for use on softwood and hardwood in Use Class 1 (not including living areas) and 2 and only for softwood in Use Class 3.

FlamePRO 705 is a proprietary blend of fire retardants which is applied as a water-based solution by vacuum pressure impregnation. FlamePRO 705 treated wood products are designed to greatly enhance safety when fire protection is necessary. In correct applications, FlamePRO 705 treated wood and plywood provide an excellent flame spread reduction as well as decreased smoke development. FlamePRO 705 treated products are intended for use in areas not exposed to weather such as roof systems, studs and flooring joists and other weather protected applications not in direct contact with the ground.

Solignum All Around Clear Conc 15 is a clear, water-based liquid wood preservative containing two triazole fungicides (propiconazole and tebuconazole) and an insecticide (permethrin). Solignum All Around Clear Conc 15 is used in the treatment of external and internal timber, with no direct ground contact, and above the damp-proof course. Solignum All Around Clear Conc 15 penetrates into the wood, protecting against wet and dry rot, termites and wood boring insects.

Process Oil 203 is a timber treatment which is designed to dry, seal, stabilise and protect timber from cracking and surface deterioration. Process

Oil 203 is applied to timber which has been preserved with wood preservative. Timber treated with a wood preservative and Process Oil 203 is protected against weathering, wood rotting fungi, and wood destroying insects. Process Oil 203 treated timber is suitable for external cladding, fencing and other external timber projects.

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	Weight of packaging material (g)	Weight-% of packaging
IBC	25 - 63	0 - 100%
Polypropylene bag	0 - 21	0 - 42%
Medium-density polyethylene bag	0 - 2	0 - 4%
Wooden pallet	0 - 27	0 - 54%
Total	0 - 63	0 - 100%

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of the products in this EPD on the production site located in Helsingborg, Sweden, Darlington, Great Britain, Osby, Sweden, Kalmar, Sweden and Tisselt, Belgium. Product specific data are based on average values collected in the period 2023. Background data are based on LCA for experts v2024.1 and Ecoinvent 3.9.1 and are with the exception for one dataset less than 10 years old. One dataset is 12 years

old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Hazardous substances

The products in this EPD do not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

(<http://echa.europa.eu/candidate-list-table>)

Essential characteristics

The wood preservatives are to be used for the treatment of wood in use classes 1-4 according to EN 335, EN 351 and EN 599.

FlamePRO is to be used for treatment of wood and wood-based products in accordance with EN 14915/EN 13986, and therefore following EN 13501-1 and related standards.

Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

<https://www.koppers.com/>

Reference Service Life (RSL)

According to the manufacturer, the reference service life depends on the region where products are sold and used. Therefore, no expected reference service life for treated wood products can be provided. In case information is required on the reference service life of a certain treated wood product, the manufacturer may be contacted.

Picture of product(s)



LCA background

Declared unit

The LCI and LCIA results in this EPD relate to the products covered by this EPD.

Name	Product	Density/ conversion factor	Unit
Declared unit	All	1	kg
Density	Celcure C65	1,16	kg/L
	Celcure M65	1,16	
	Celcure MC-T3	1,21	
	Celcure MC-T4	1,41	
	Protim ME7 Conc.	1,01	
	Protim ME7-50 Clear	1,01	
	FlamePro 705	1,65	
	Solignum All Around Clear Conc 15	1	
Conversion factor to 1 kg	Processolie 203	0,91	-
	Celcure C65	0,86	
	Celcure M65A	0,86	
	Celcure MC-T3	0,83	
	Celcure MC-T4	0,71	
	Protim ME7 Conc.	0,99	
	Protim ME7-50 Clear	0,99	
	FlamePro 705	0,61	
Solignum All Around Clear Conc 15	1		
Processolie 203	1,1		

Functional unit

Not defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804, and PCR 2021:03, Basic Chemicals from EPD International.

Energy modelling principles

Foreground system:

No Guarantees of Origin are used in the modelling.

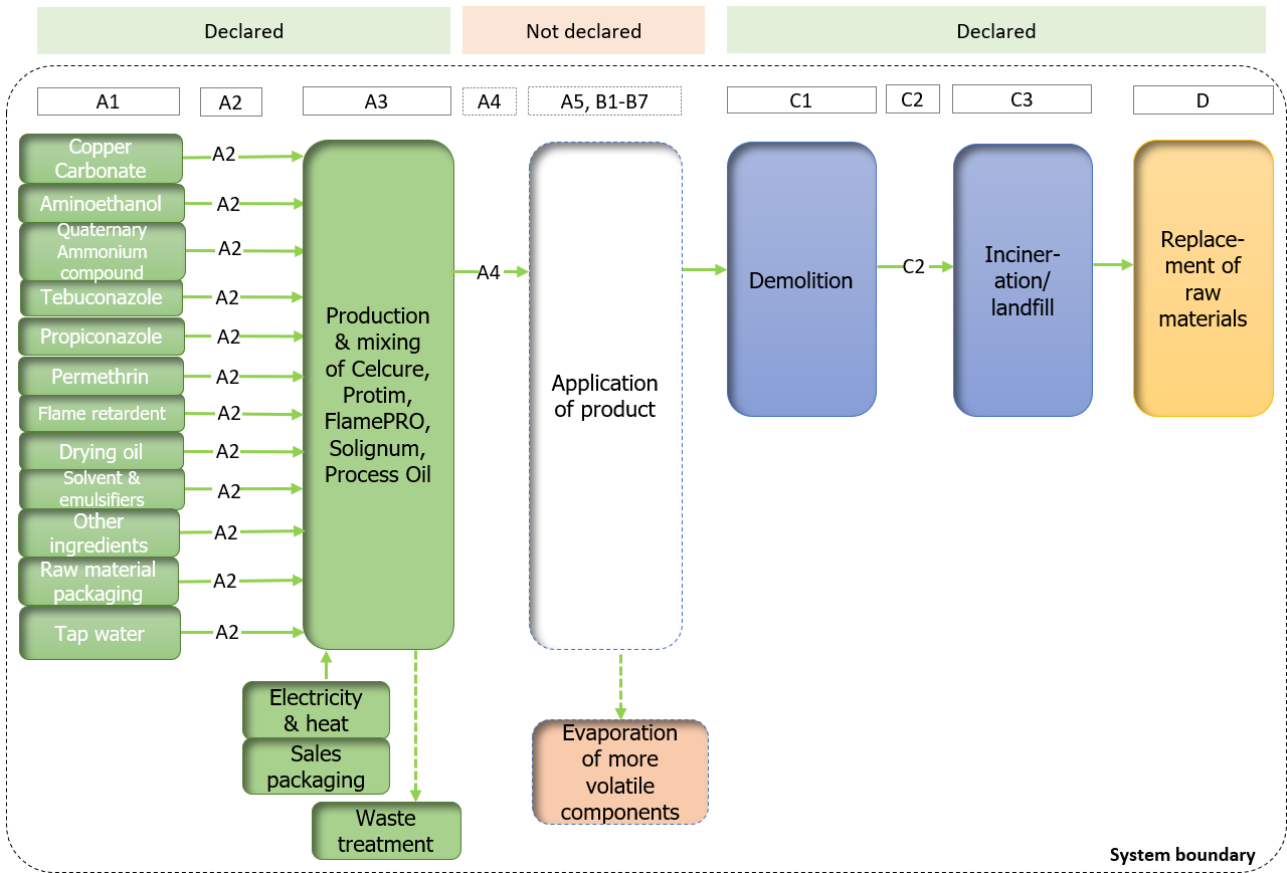
Information about the energy mix in the foreground system:

Dataset
Residual grid mix, SE, 2023
Residual grid mix, GB, 2023
Residual grid mix, BE, 2023

Background system:

Upstream processes are modelled using the residual grid mix. Downstream processes are modelled using the production mix.

Flowdiagram



System boundary

This EPD is based on a cradle-to-gate with modules C1-C4 and D LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

The cut-off criteria for mass were applied for the packaging of the sales packaging and capital goods. Both account for a mass of <<1% and presumably for impacts <<1%, as well. Generally, it was attempted to subdivide the processes as much as possible. Otherwise, allocation was done on a mass basis and applied on energy consumption and sales packaging, which was allocated on a mass-based principle.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The LCA results are declared in aggregated form for the product stage, which means, that the sub-modules A1, A2 and A3 are declared as one module A1-A3.

The raw materials are transported from their place of extraction to Koppers' production sites often via an intermediate agent. Here the raw materials are directly tapped into the reaction tank according to the batch ticket specified for product and volume. After its production the products covered in this EPD are tapped into either HDPE container, plastic bag IBC or tanker truck depending on the size of the order.

End of Life (C1-C4) includes:

It is unknown exactly which wooden components Koppers' products are applied to and therefore also unknown how the wooden components are demolished (C1). However, as the products become a part of wooden structure building materials they will be deconstructed together with the wooden components without causing an additional demand for electricity and heat.

After demolition Koppers' products embedded in the wooden building components, are assumed to be transported 1000 km to a waste treatment facility according to PCR 2021:03, Basic Chemicals (C2).

Most of Koppers' products are sold within the European Union. Therefore, a European waste scenario was assumed for modelling, where 54% of the wood waste Koppers' products are applied on is incinerated, 46% is treated by recycling (C3).

Re-use, recovery and recycling potential (D) includes:

There is an export of electricity and heat from the waste incineration of the Koppers' products as described in the waste processing occurring in C3. The benefits of this incineration are declared in module D and correspond to the exported electricity and heat in the incineration process. They replace an average European mix for electricity and district heating.

LCA results

Celcure C65

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	2,36E+00	0,00E+00	2,20E-03	7,88E-01	0,00E+00	-4,71E-02
GWP-fossil	[kg CO ₂ eq.]	2,67E+00	0,00E+00	2,16E-03	2,07E-01	0,00E+00	-4,68E-02
GWP-biogenic	[kg CO ₂ eq.]	-5,81E-01	0,00E+00	5,17E-06	5,81E-01	0,00E+00	-2,83E-04
GWP-luluc	[kg CO ₂ eq.]	2,73E-01	0,00E+00	3,64E-05	4,04E-05	0,00E+00	-1,00E-05
ODP	[kg CFC 11 eq.]	5,57E-08	0,00E+00	3,19E-16	7,26E-14	0,00E+00	-4,43E-13
AP	[mol H ⁺ eq.]	7,09E-02	0,00E+00	3,36E-06	5,95E-05	0,00E+00	-9,93E-05
EP-freshwater	[kg P eq.]	4,96E-03	0,00E+00	9,24E-09	5,99E-08	0,00E+00	-1,69E-07
EP-marine	[kg N eq.]	1,19E-02	0,00E+00	1,28E-06	2,00E-05	0,00E+00	-2,49E-05
EP-terrestrial	[mol N eq.]	7,38E-02	0,00E+00	1,51E-05	2,85E-04	0,00E+00	-2,59E-04
POCP	[kg NMVOC eq.]	1,91E-02	0,00E+00	3,34E-06	5,34E-05	0,00E+00	-6,65E-05
ADPm ¹	[kg Sb eq.]	7,55E-04	0,00E+00	1,89E-10	1,12E-09	0,00E+00	-9,18E-09
ADPf ¹	[MJ]	5,22E+01	0,00E+00	2,85E-02	1,48E-01	0,00E+00	-7,33E-01
WDP ¹	[m ³ world eq. deprived]	5,63E+00	0,00E+00	3,35E-05	4,19E-02	0,00E+00	-8,64E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Celcure C65

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	2,66E-07	0,00E+00	3,66E-11	1,36E-09	0,00E+00	-8,08E-10
IRP ²	[kBq U235 eq.]	2,44E-01	0,00E+00	7,53E-06	6,78E-04	0,00E+00	-1,49E-02
ETP-fw ¹	[CTUe]	1,02E+02	0,00E+00	2,12E-02	6,41E-02	0,00E+00	-2,07E-01
HTP-c ¹	[CTUh]	1,57E-08	0,00E+00	4,27E-13	3,35E-12	0,00E+00	-9,09E-12
HTP-nc ¹	[CTUh]	7,86E-07	0,00E+00	1,92E-11	8,11E-11	0,00E+00	-2,94E-10
SQP ¹	-	5,99E+01	0,00E+00	1,40E-02	6,75E-02	0,00E+00	-5,53E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Celcure C65

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1,93E+01	0,00E+00	2,46E-03	5,49E-02	0,00E+00	-4,30E-01
PERM	[MJ]	5,83E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	1,94E+01	0,00E+00	2,46E-03	5,49E-02	0,00E+00	-4,30E-01
PENRE	[MJ]	3,06E+01	0,00E+00	2,85E-02	1,48E-01	0,00E+00	-7,33E-01
PENRM	[MJ]	2,16E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	5,27E+01	0,00E+00	2,85E-02	1,48E-01	0,00E+00	-7,33E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	1,32E-01	0,00E+00	2,74E-06	9,46E-04	0,00E+00	-3,38E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure C65

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	1,53E-10	0,00E+00	1,09E-12	1,28E-10	0,00E+00	-8,75E-11
NHWD	[kg]	1,18E-03	0,00E+00	4,66E-06	2,59E-02	0,00E+00	-1,09E-03
RWD	[kg]	5,59E-05	0,00E+00	5,19E-08	5,32E-06	0,00E+00	-8,80E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	1,34E-02	0,00E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00
EET	[MJ]	4,59E-02	0,00E+00	0,00E+00	2,65E-01	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure C65

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	1,54E-01
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Celcure M65

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	1,61E+00	0,00E+00	1,82E-03	7,51E-01	0,00E+00	-3,21E-02
GWP-fossil	[kg CO ₂ eq.]	1,93E+00	0,00E+00	1,79E-03	1,71E-01	0,00E+00	-3,19E-02
GWP-biogenic	[kg CO ₂ eq.]	-5,85E-01	0,00E+00	4,27E-06	5,80E-01	0,00E+00	-2,19E-04
GWP-luluc	[kg CO ₂ eq.]	2,72E-01	0,00E+00	3,00E-05	3,33E-05	0,00E+00	-6,81E-06
ODP	[kg CFC 11 eq.]	6,91E-08	0,00E+00	2,63E-16	7,72E-14	0,00E+00	-4,22E-13
AP	[mol H ⁺ eq.]	6,74E-02	0,00E+00	2,78E-06	4,78E-05	0,00E+00	-6,98E-05
EP-freshwater	[kg P eq.]	4,85E-03	0,00E+00	7,64E-09	4,82E-08	0,00E+00	-1,00E-07
EP-marine	[kg N eq.]	8,23E-03	0,00E+00	1,06E-06	1,64E-05	0,00E+00	-1,62E-05
EP-terrestrial	[mol N eq.]	6,47E-02	0,00E+00	1,25E-05	2,35E-04	0,00E+00	-1,69E-04
POCP	[kg NMVOC eq.]	1,64E-02	0,00E+00	2,76E-06	4,35E-05	0,00E+00	-4,36E-05
ADPm ¹	[kg Sb eq.]	7,51E-04	0,00E+00	1,56E-10	9,80E-10	0,00E+00	-8,05E-09
ADPf ¹	[MJ]	3,29E+01	0,00E+00	2,36E-02	1,21E-01	0,00E+00	-5,60E-01
WDP ¹	[m ³ world eq. deprived]	5,10E+00	0,00E+00	2,77E-05	3,47E-02	0,00E+00	-6,92E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Celcure M65

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	2,28E-07	0,00E+00	3,02E-11	1,10E-09	0,00E+00	-5,76E-10
IRP ²	[kBq U235 eq.]	1,57E-01	0,00E+00	6,22E-06	5,55E-04	0,00E+00	-1,42E-02
ETP-fw ¹	[CTUe]	9,75E+01	0,00E+00	1,75E-02	4,93E-02	0,00E+00	-1,58E-01
HTP-c ¹	[CTUh]	1,31E-08	0,00E+00	3,53E-13	2,43E-12	0,00E+00	-7,01E-12
HTP-nc ¹	[CTUh]	7,83E-07	0,00E+00	1,58E-11	6,90E-11	0,00E+00	-1,95E-10
SQP ¹	-	5,83E+01	0,00E+00	1,16E-02	5,02E-02	0,00E+00	-2,59E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Celcure M65

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1,87E+01	0,00E+00	2,03E-03	4,99E-02	0,00E+00	-3,15E-01
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	1,87E+01	0,00E+00	2,03E-03	4,99E-02	0,00E+00	-3,15E-01
PENRE	[MJ]	1,82E+01	0,00E+00	2,36E-02	2,39E-01	0,00E+00	-5,60E-01
PENRM	[MJ]	1,46E+01	0,00E+00	0,00E+00	-1,18E-01	0,00E+00	0,00E+00
PENRT	[MJ]	3,34E+01	0,00E+00	2,36E-02	1,21E-01	0,00E+00	-5,60E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	1,20E-01	0,00E+00	2,26E-06	7,77E-04	0,00E+00	-2,86E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure M65

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	9,86E-11	0,00E+00	9,02E-13	1,08E-10	0,00E+00	-5,32E-11
NHWD	[kg]	5,56E-03	0,00E+00	3,85E-06	2,14E-02	0,00E+00	-5,28E-04
RWD	[kg]	1,15E-05	0,00E+00	4,29E-08	5,37E-06	0,00E+00	-8,37E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	2,78E-03	0,00E+00	0,00E+00	2,81E-01	0,00E+00	0,00E+00
EET	[MJ]	4,98E-03	0,00E+00	0,00E+00	5,25E-02	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure M65

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	1,54E-01
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Celcure MC-T3

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	1,43E+00	0,00E+00	2,28E-03	2,14E-01	0,00E+00	-3,96E-02
GWP-fossil	[kg CO ₂ eq.]	1,42E+00	0,00E+00	2,24E-03	2,14E-01	0,00E+00	-3,94E-02
GWP-biogenic	[kg CO ₂ eq.]	1,67E-03	0,00E+00	5,35E-06	-1,62E-06	0,00E+00	-2,60E-04
GWP-luluc	[kg CO ₂ eq.]	2,80E-03	0,00E+00	3,76E-05	4,17E-05	0,00E+00	-8,42E-06
ODP	[kg CFC 11 eq.]	7,44E-08	0,00E+00	3,30E-16	9,43E-14	0,00E+00	-4,73E-13
AP	[mol H ⁺ eq.]	6,49E-02	0,00E+00	3,48E-06	6,09E-05	0,00E+00	-8,54E-05
EP-freshwater	[kg P eq.]	4,95E-03	0,00E+00	9,56E-09	6,13E-08	0,00E+00	-1,30E-07
EP-marine	[kg N eq.]	3,89E-03	0,00E+00	1,33E-06	2,07E-05	0,00E+00	-2,03E-05
EP-terrestrial	[mol N eq.]	4,93E-02	0,00E+00	1,56E-05	2,96E-04	0,00E+00	-2,12E-04
POCP	[kg NMVOC eq.]	1,39E-02	0,00E+00	3,45E-06	5,50E-05	0,00E+00	-5,45E-05
ADPm ¹	[kg Sb eq.]	7,85E-04	0,00E+00	1,95E-10	1,22E-09	0,00E+00	-9,22E-09
ADPf ¹	[MJ]	2,10E+01	0,00E+00	2,95E-02	1,53E-01	0,00E+00	-6,67E-01
WDP ¹	[m ³ world eq. deprived]	1,54E+00	0,00E+00	3,47E-05	4,34E-02	0,00E+00	-8,13E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Celcure MC-T3

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	1,68E-07	0,00E+00	3,79E-11	1,39E-09	0,00E+00	-7,01E-10
IRP ²	[kBq U235 eq.]	1,28E-01	0,00E+00	7,79E-06	6,98E-04	0,00E+00	-1,59E-02
ETP-fw ¹	[CTUe]	8,96E+01	0,00E+00	2,19E-02	6,46E-02	0,00E+00	-1,89E-01
HTP-c ¹	[CTUh]	1,15E-08	0,00E+00	4,42E-13	3,14E-12	0,00E+00	-8,33E-12
HTP-nc ¹	[CTUh]	8,08E-07	0,00E+00	1,98E-11	9,03E-11	0,00E+00	-2,43E-10
SQP ¹	-	2,17E+01	0,00E+00	1,45E-02	6,63E-02	0,00E+00	-3,68E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Celcure MC-T3

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	3,31E+00	0,00E+00	2,54E-03	6,17E-02	0,00E+00	-3,81E-01
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,31E+00	0,00E+00	2,54E-03	6,17E-02	0,00E+00	-3,81E-01
PENRE	[MJ]	1,97E+01	0,00E+00	2,95E-02	8,64E-01	0,00E+00	-6,67E-01
PENRM	[MJ]	1,28E+00	0,00E+00	0,00E+00	-7,11E-01	0,00E+00	0,00E+00
PENRT	[MJ]	2,10E+01	0,00E+00	2,95E-02	1,53E-01	0,00E+00	-6,67E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	3,64E-02	0,00E+00	2,83E-06	9,73E-04	0,00E+00	-3,31E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure MC-T3

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	2,78E-11	0,00E+00	1,13E-12	1,32E-10	0,00E+00	-6,83E-11
NHWD	[kg]	1,25E-03	0,00E+00	4,82E-06	2,68E-02	0,00E+00	-7,39E-04
RWD	[kg]	4,21E-06	0,00E+00	5,37E-08	6,77E-06	0,00E+00	-9,38E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	1,96E-02	0,00E+00	0,00E+00	3,15E-01	0,00E+00	0,00E+00
EET	[MJ]	3,50E-02	0,00E+00	0,00E+00	1,17E-01	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure MC-T3

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Celcure MC-T4

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	2,24E+00	0,00E+00	3,38E-03	3,26E-01	0,00E+00	-1,46E-01
GWP-fossil	[kg CO ₂ eq.]	2,25E+00	0,00E+00	3,32E-03	3,15E-01	0,00E+00	-1,46E-01
GWP-biogenic	[kg CO ₂ eq.]	-1,87E-02	0,00E+00	7,94E-06	1,05E-02	0,00E+00	-6,38E-04
GWP-luluc	[kg CO ₂ eq.]	1,12E-02	0,00E+00	5,59E-05	6,14E-05	0,00E+00	-3,10E-05
ODP	[kg CFC 11 eq.]	7,21E-08	0,00E+00	4,90E-16	8,29E-14	0,00E+00	-2,85E-13
AP	[mol H ⁺ eq.]	1,27E-01	0,00E+00	5,17E-06	7,90E-05	0,00E+00	-2,89E-04
EP-freshwater	[kg P eq.]	9,70E-03	0,00E+00	1,42E-08	8,56E-08	0,00E+00	-6,59E-07
EP-marine	[kg N eq.]	7,00E-03	0,00E+00	1,97E-06	2,75E-05	0,00E+00	-8,43E-05
EP-terrestrial	[mol N eq.]	9,26E-02	0,00E+00	2,32E-05	3,96E-04	0,00E+00	-8,71E-04
POCP	[kg NMVOC eq.]	2,60E-02	0,00E+00	5,13E-06	7,31E-05	0,00E+00	-2,22E-04
ADPm ¹	[kg Sb eq.]	1,56E-03	0,00E+00	2,90E-10	1,30E-09	0,00E+00	-1,22E-08
ADPf ¹	[MJ]	3,34E+01	0,00E+00	4,38E-02	1,77E-01	0,00E+00	-1,73E+00
WDP ¹	[m ³ world eq. deprived]	2,73E+00	0,00E+00	5,15E-05	6,46E-02	0,00E+00	-1,74E-02
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Celcure MC-T4

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	3,15E-07	0,00E+00	5,62E-11	1,96E-09	0,00E+00	-2,28E-09
IRP ²	[kBq U235 eq.]	2,10E-01	0,00E+00	1,16E-05	4,08E-04	0,00E+00	-9,71E-03
ETP-fw ¹	[CTUe]	1,55E+02	0,00E+00	3,25E-02	5,48E-02	0,00E+00	-4,86E-01
HTP-c ¹	[CTUh]	2,26E-08	0,00E+00	6,56E-13	4,42E-12	0,00E+00	-2,07E-11
HTP-nc ¹	[CTUh]	1,61E-06	0,00E+00	2,95E-11	8,20E-11	0,00E+00	-9,63E-10
SQP ¹	-	4,37E+01	0,00E+00	2,15E-02	7,67E-02	0,00E+00	-2,78E+00
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Celcure MC-T4

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	6,48E+00	0,00E+00	3,77E-03	8,49E-02	0,00E+00	-1,13E+00
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	6,48E+00	0,00E+00	3,77E-03	8,49E-02	0,00E+00	-1,13E+00
PENRE	[MJ]	3,27E+01	0,00E+00	4,38E-02	8,13E-01	0,00E+00	-1,73E+00
PENRM	[MJ]	6,68E-01	0,00E+00	0,00E+00	-6,36E-01	0,00E+00	0,00E+00
PENRT	[MJ]	3,34E+01	0,00E+00	4,38E-02	1,77E-01	0,00E+00	-1,73E+00
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	6,41E-02	0,00E+00	4,20E-06	1,48E-03	0,00E+00	-5,42E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure MC-T4

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	4,98E-11	0,00E+00	1,68E-12	1,21E-10	0,00E+00	-3,29E-10
NHWD	[kg]	3,60E-04	0,00E+00	7,15E-06	3,97E-02	0,00E+00	-5,32E-03
RWD	[kg]	5,26E-06	0,00E+00	7,98E-08	3,81E-06	0,00E+00	-5,78E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	1,11E-03	0,00E+00	0,00E+00	1,87E-01	0,00E+00	0,00E+00
EET	[MJ]	1,98E-03	0,00E+00	0,00E+00	1,98E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Celcure MC-T4

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	3,63E-03
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Protim ME7 Clear

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	2,16E+00	0,00E+00	2,48E-03	4,83E-01	0,00E+00	-4,23E-02
GWP-fossil	[kg CO ₂ eq.]	2,10E+00	0,00E+00	2,44E-03	2,33E-01	0,00E+00	-4,20E-02
GWP-biogenic	[kg CO ₂ eq.]	-3,25E-01	0,00E+00	5,82E-06	2,50E-01	0,00E+00	-2,99E-04
GWP-luluc	[kg CO ₂ eq.]	3,85E-01	0,00E+00	4,10E-05	4,54E-05	0,00E+00	-8,97E-06
ODP	[kg CFC 11 eq.]	1,41E-07	0,00E+00	3,59E-16	1,04E-13	0,00E+00	-6,02E-13
AP	[mol H ⁺ eq.]	2,57E-02	0,00E+00	3,79E-06	6,55E-05	0,00E+00	-9,28E-05
EP-freshwater	[kg P eq.]	1,95E-03	0,00E+00	1,04E-08	6,57E-08	0,00E+00	-1,26E-07
EP-marine	[kg N eq.]	9,66E-03	0,00E+00	1,45E-06	2,24E-05	0,00E+00	-2,10E-05
EP-terrestrial	[mol N eq.]	9,50E-02	0,00E+00	1,70E-05	3,22E-04	0,00E+00	-2,20E-04
POCP	[kg NMVOC eq.]	9,53E-03	0,00E+00	3,76E-06	5,96E-05	0,00E+00	-5,67E-05
ADPm ¹	[kg Sb eq.]	1,89E-04	0,00E+00	2,12E-10	1,35E-09	0,00E+00	-1,13E-08
ADPf ¹	[MJ]	3,33E+01	0,00E+00	3,21E-02	1,66E-01	0,00E+00	-7,60E-01
WDP ¹	[m ³ world eq. deprived]	8,94E-01	0,00E+00	3,78E-05	4,73E-02	0,00E+00	-9,51E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Protim ME7 Clear

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	2,22E-07	0,00E+00	4,12E-11	1,50E-09	0,00E+00	-7,68E-10
IRP ²	[kBq U235 eq.]	1,30E-01	0,00E+00	8,49E-06	7,43E-04	0,00E+00	-2,02E-02
ETP-fw ¹	[CTUe]	9,28E+01	0,00E+00	2,39E-02	6,81E-02	0,00E+00	-2,15E-01
HTP-c ¹	[CTUh]	5,47E-09	0,00E+00	4,82E-13	3,34E-12	0,00E+00	-9,56E-12
HTP-nc ¹	[CTUh]	3,18E-07	0,00E+00	2,16E-11	9,38E-11	0,00E+00	-2,54E-10
SQP ¹	-	1,12E+02	0,00E+00	1,58E-02	6,87E-02	0,00E+00	-2,96E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Protim ME7 Clear

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	7,38E+00	0,00E+00	2,77E-03	6,78E-02	0,00E+00	-4,24E-01
PERM	[MJ]	2,67E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	7,64E+00	0,00E+00	2,77E-03	6,78E-02	0,00E+00	-4,24E-01
PENRE	[MJ]	1,23E+01	0,00E+00	3,21E-02	2,10E+01	0,00E+00	-7,60E-01
PENRM	[MJ]	2,11E+01	0,00E+00	0,00E+00	-2,08E+01	0,00E+00	0,00E+00
PENRT	[MJ]	3,35E+01	0,00E+00	3,21E-02	1,66E-01	0,00E+00	-7,60E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	2,14E-02	0,00E+00	3,08E-06	1,06E-03	0,00E+00	-3,99E-04
Caption	<p>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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						

Protim ME7 Clear

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	6,30E-05	0,00E+00	1,23E-12	1,51E-10	0,00E+00	-6,76E-11
NHWD	[kg]	1,85E-02	0,00E+00	5,25E-06	2,92E-02	0,00E+00	-6,13E-04
RWD	[kg]	4,05E-05	0,00E+00	5,85E-08	7,17E-06	0,00E+00	-1,19E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	4,96E-02	0,00E+00	0,00E+00	4,02E-01	0,00E+00	0,00E+00
EET	[MJ]	1,89E-01	0,00E+00	0,00E+00	1,98E-02	0,00E+00	0,00E+00
Caption	<p>HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						

Protim ME7 Clear

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	6,73E-02
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Protim ME7-50

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	1,08E+00	0,00E+00	1,24E-03	1,79E-01	0,00E+00	-2,11E-02
GWP-fossil	[kg CO ₂ eq.]	1,05E+00	0,00E+00	1,22E-03	1,16E-01	0,00E+00	-2,10E-02
GWP-biogenic	[kg CO ₂ eq.]	-1,64E-01	0,00E+00	2,91E-06	6,25E-02	0,00E+00	-1,50E-04
GWP-luluc	[kg CO ₂ eq.]	1,93E-01	0,00E+00	2,05E-05	2,27E-05	0,00E+00	-4,49E-06
ODP	[kg CFC 11 eq.]	7,06E-08	0,00E+00	1,80E-16	5,21E-14	0,00E+00	-3,01E-13
AP	[mol H ⁺ eq.]	1,28E-02	0,00E+00	1,90E-06	3,27E-05	0,00E+00	-4,64E-05
EP-freshwater	[kg P eq.]	9,76E-04	0,00E+00	5,21E-09	3,29E-08	0,00E+00	-6,30E-08
EP-marine	[kg N eq.]	4,83E-03	0,00E+00	7,23E-07	1,12E-05	0,00E+00	-1,05E-05
EP-terrestrial	[mol N eq.]	4,76E-02	0,00E+00	8,50E-06	1,61E-04	0,00E+00	-1,10E-04
POCP	[kg NMVOC eq.]	4,78E-03	0,00E+00	1,88E-06	2,98E-05	0,00E+00	-2,84E-05
ADPm ¹	[kg Sb eq.]	9,48E-05	0,00E+00	1,06E-10	6,75E-10	0,00E+00	-5,65E-09
ADPf ¹	[MJ]	1,67E+01	0,00E+00	1,61E-02	8,31E-02	0,00E+00	-3,80E-01
WDP ¹	[m ³ world eq. deprived]	4,49E-01	0,00E+00	1,89E-05	2,36E-02	0,00E+00	-4,76E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Protim ME7-50

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	1,12E-07	0,00E+00	2,06E-11	7,52E-10	0,00E+00	-3,84E-10
IRP ²	[kBq U235 eq.]	6,53E-02	0,00E+00	4,25E-06	3,71E-04	0,00E+00	-1,01E-02
ETP-fw ¹	[CTUe]	4,64E+01	0,00E+00	1,19E-02	3,41E-02	0,00E+00	-1,08E-01
HTP-c ¹	[CTUh]	2,74E-09	0,00E+00	2,41E-13	1,67E-12	0,00E+00	-4,78E-12
HTP-nc ¹	[CTUh]	1,59E-07	0,00E+00	1,08E-11	4,69E-11	0,00E+00	-1,27E-10
SQP ¹	-	5,63E+01	0,00E+00	7,90E-03	3,43E-02	0,00E+00	-1,48E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Protim ME7-50

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	3,70E+00	0,00E+00	1,38E-03	3,39E-02	0,00E+00	-2,12E-01
PERM	[MJ]	1,34E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,84E+00	0,00E+00	1,38E-03	3,39E-02	0,00E+00	-2,12E-01
PENRE	[MJ]	6,17E+00	0,00E+00	1,61E-02	1,05E+01	0,00E+00	-3,80E-01
PENRM	[MJ]	1,05E+01	0,00E+00	0,00E+00	-1,04E+01	0,00E+00	0,00E+00
PENRT	[MJ]	1,68E+01	0,00E+00	1,61E-02	8,31E-02	0,00E+00	-3,80E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	1,12E-02	0,00E+00	1,54E-06	5,29E-04	0,00E+00	-1,99E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Protim ME7-50

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	3,15E-05	0,00E+00	6,15E-13	7,55E-11	0,00E+00	-3,38E-11
NHWD	[kg]	9,39E-03	0,00E+00	2,62E-06	1,46E-02	0,00E+00	-3,07E-04
RWD	[kg]	2,18E-05	0,00E+00	2,93E-08	3,59E-06	0,00E+00	-5,97E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	2,48E-02	0,00E+00	0,00E+00	2,01E-01	0,00E+00	0,00E+00
EET	[MJ]	9,48E-02	0,00E+00	0,00E+00	9,88E-03	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Protim ME7-50

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	3,36E-02
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

FlamePRO 705

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	9,53E-01	0,00E+00	4,45E-03	5,98E-01	0,00E+00	-1,78E-02
GWP-fossil	[kg CO ₂ eq.]	1,00E+00	0,00E+00	4,37E-03	7,37E-02	0,00E+00	-1,77E-02
GWP-biogenic	[kg CO ₂ eq.]	-5,08E-02	0,00E+00	1,04E-05	5,24E-01	0,00E+00	-1,28E-04
GWP-luluc	[kg CO ₂ eq.]	1,91E-03	0,00E+00	7,35E-05	5,09E-05	0,00E+00	-3,78E-06
ODP	[kg CFC 11 eq.]	2,89E-09	0,00E+00	6,44E-16	5,07E-14	0,00E+00	-2,62E-13
AP	[mol H ⁺ eq.]	1,09E-02	0,00E+00	6,79E-06	1,48E-04	0,00E+00	-3,92E-05
EP-freshwater	[kg P eq.]	8,54E-05	0,00E+00	1,87E-08	1,21E-05	0,00E+00	-5,21E-08
EP-marine	[kg N eq.]	2,68E-02	0,00E+00	2,59E-06	1,41E-04	0,00E+00	-8,80E-06
EP-terrestrial	[mol N eq.]	8,90E-03	0,00E+00	3,05E-05	5,52E-04	0,00E+00	-9,23E-05
POCP	[kg NMVOC eq.]	3,27E-03	0,00E+00	6,74E-06	3,48E-04	0,00E+00	-2,38E-05
ADPm ¹	[kg Sb eq.]	5,70E-05	0,00E+00	3,81E-10	1,08E-09	0,00E+00	-4,88E-09
ADPf ¹	[MJ]	1,61E+01	0,00E+00	5,76E-02	3,72E-01	0,00E+00	-3,24E-01
WDP ¹	[m ³ world eq. deprived]	1,97E-01	0,00E+00	6,77E-05	2,02E-03	0,00E+00	-4,07E-03
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

FlamePRO 705

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	9,22E-08	0,00E+00	7,39E-11	1,49E-09	0,00E+00	-3,25E-10
IRP ²	[kBq U235 eq.]	8,08E-02	0,00E+00	1,52E-05	6,60E-04	0,00E+00	-8,78E-03
ETP-fw ¹	[CTUe]	8,34E+01	0,00E+00	4,27E-02	5,54E-01	0,00E+00	-9,19E-02
HTP-c ¹	[CTUh]	6,56E-10	0,00E+00	8,63E-13	1,01E-11	0,00E+00	-4,08E-12
HTP-nc ¹	[CTUh]	6,21E-09	0,00E+00	3,87E-11	9,19E-10	0,00E+00	-1,07E-10
SQP ¹	-	1,45E+01	0,00E+00	2,83E-02	4,27E-02	0,00E+00	-1,17E-01
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

FlamePRO 705

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	2,15E+00	0,00E+00	4,96E-03	4,03E-02	0,00E+00	-1,80E-01
PERM	[MJ]	9,13E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,06E+00	0,00E+00	4,96E-03	4,03E-02	0,00E+00	-1,80E-01
PENRE	[MJ]	1,45E+01	0,00E+00	5,76E-02	9,36E-01	0,00E+00	-3,24E-01
PENRM	[MJ]	1,56E+00	0,00E+00	0,00E+00	-5,64E-01	0,00E+00	0,00E+00
PENRT	[MJ]	1,61E+01	0,00E+00	5,76E-02	3,72E-01	0,00E+00	-3,24E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	5,76E-03	0,00E+00	5,53E-06	6,03E-05	0,00E+00	-1,72E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

FlamePRO 705

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	3,75E-09	0,00E+00	2,20E-12	6,68E-11	0,00E+00	-2,81E-11
NHWD	[kg]	1,64E+00	0,00E+00	9,40E-06	4,16E-01	0,00E+00	-2,44E-04
RWD	[kg]	4,48E-04	0,00E+00	1,05E-07	4,49E-06	0,00E+00	-5,18E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	7,73E-02	0,00E+00	0,00E+00	1,74E-01	0,00E+00	0,00E+00
EET	[MJ]	3,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

FlamePRO 705

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Solignum All Around Clear Conc 15

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	1,73E+00	0,00E+00	3,58E-03	2,08E+00	0,00E+00	-8,20E-02
GWP-fossil	[kg CO ₂ eq.]	3,12E+00	0,00E+00	3,52E-03	3,37E-01	0,00E+00	-8,15E-02
GWP-biogenic	[kg CO ₂ eq.]	-1,72E+00	0,00E+00	8,40E-06	1,74E+00	0,00E+00	-4,71E-04
GWP-luluc	[kg CO ₂ eq.]	3,26E-01	0,00E+00	5,91E-05	6,59E-05	0,00E+00	-1,74E-05
ODP	[kg CFC 11 eq.]	1,20E-07	0,00E+00	5,18E-16	1,56E-13	0,00E+00	-6,74E-13
AP	[mol H ⁺ eq.]	2,36E-02	0,00E+00	5,47E-06	9,81E-05	0,00E+00	-1,71E-04
EP-freshwater	[kg P eq.]	1,01E-03	0,00E+00	1,50E-08	1,04E-07	0,00E+00	-3,06E-07
EP-marine	[kg N eq.]	1,64E-02	0,00E+00	2,09E-06	3,19E-05	0,00E+00	-4,39E-05
EP-terrestrial	[mol N eq.]	7,20E-02	0,00E+00	2,45E-05	4,59E-04	0,00E+00	-4,57E-04
POCP	[kg NMVOC eq.]	1,54E-02	0,00E+00	5,43E-06	8,54E-05	0,00E+00	-1,17E-04
ADPm ¹	[kg Sb eq.]	2,10E-04	0,00E+00	3,06E-10	1,79E-09	0,00E+00	-1,45E-08
ADPf ¹	[MJ]	5,27E+01	0,00E+00	4,63E-02	2,68E-01	0,00E+00	-1,23E+00
WDP ¹	[m ³ world eq. deprived]	1,10E+01	0,00E+00	5,45E-05	6,84E-02	0,00E+00	-1,42E-02
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Solignum All Around Clear Conc 15

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	2,61E-07	0,00E+00	5,95E-11	2,18E-09	0,00E+00	-1,38E-09
IRP ²	[kBq U235 eq.]	1,81E-01	0,00E+00	1,22E-05	1,38E-03	0,00E+00	-2,27E-02
ETP-fw ¹	[CTUe]	1,22E+02	0,00E+00	3,44E-02	1,25E-01	0,00E+00	-3,47E-01
HTP-c ¹	[CTUh]	8,74E-09	0,00E+00	6,95E-13	5,47E-12	0,00E+00	-1,51E-11
HTP-nc ¹	[CTUh]	6,68E-08	0,00E+00	3,12E-11	1,68E-10	0,00E+00	-5,16E-10
SQP ¹	-	1,74E+02	0,00E+00	2,28E-02	9,66E-02	0,00E+00	-1,06E+00
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Solignum All Around Clear Conc 15

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	4,54E+01	0,00E+00	3,99E-03	7,54E-02	0,00E+00	-7,31E-01
PERM	[MJ]	3,89E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,58E+01	0,00E+00	3,99E-03	7,54E-02	0,00E+00	-7,31E-01
PENRE	[MJ]	1,71E+01	0,00E+00	4,64E-02	3,33E+01	0,00E+00	-1,23E+00
PENRM	[MJ]	3,56E+01	0,00E+00	0,00E+00	-3,30E+01	0,00E+00	0,00E+00
PENRT	[MJ]	5,40E+01	0,00E+00	4,64E-02	2,68E-01	0,00E+00	-1,23E+00
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	2,57E-01	0,00E+00	4,45E-06	1,53E-03	0,00E+00	-5,43E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Solignum All Around Clear Conc 15

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	5,33E-10	0,00E+00	1,77E-12	1,27E-10	0,00E+00	-1,57E-10
NHWD	[kg]	1,12E-02	0,00E+00	7,57E-06	4,21E-02	0,00E+00	-2,07E-03
RWD	[kg]	4,98E-05	0,00E+00	8,44E-08	1,85E-05	0,00E+00	-1,34E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	2,55E-01	0,00E+00	0,00E+00	4,49E-01	0,00E+00	0,00E+00
EET	[MJ]	6,03E-01	0,00E+00	0,00E+00	5,63E-01	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Solignum All Around Clear Conc 15

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	3,96E-01
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Process Oil 203

ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	5,40E-01	0,00E+00	4,45E-03	2,53E+00	0,00E+00	-2,09E-01
GWP-fossil	[kg CO ₂ eq.]	2,65E+00	0,00E+00	4,37E-03	4,14E-01	0,00E+00	-2,08E-01
GWP-biogenic	[kg CO ₂ eq.]	-2,12E+00	0,00E+00	1,04E-05	2,11E+00	0,00E+00	-9,08E-04
GWP-luluc	[kg CO ₂ eq.]	4,84E-03	0,00E+00	7,35E-05	8,09E-05	0,00E+00	-4,44E-05
ODP	[kg CFC 11 eq.]	1,24E-07	0,00E+00	6,44E-16	1,15E-13	0,00E+00	-3,82E-13
AP	[mol H ⁺ eq.]	8,22E-02	0,00E+00	6,79E-06	1,05E-04	0,00E+00	-4,13E-04
EP-freshwater	[kg P eq.]	2,11E-02	0,00E+00	1,87E-08	1,15E-07	0,00E+00	-9,47E-07
EP-marine	[kg N eq.]	4,60E-02	0,00E+00	2,59E-06	3,65E-05	0,00E+00	-1,21E-04
EP-terrestrial	[mol N eq.]	3,54E-01	0,00E+00	3,05E-05	5,23E-04	0,00E+00	-1,25E-03
POCP	[kg NMVOC eq.]	1,44E-02	0,00E+00	6,74E-06	9,70E-05	0,00E+00	-3,18E-04
ADPm ¹	[kg Sb eq.]	1,20E-05	0,00E+00	3,81E-10	1,78E-09	0,00E+00	-1,71E-08
ADPf ¹	[MJ]	4,89E+01	0,00E+00	5,76E-02	2,46E-01	0,00E+00	-2,46E+00
WDP ¹	[m ³ world eq. deprived]	8,81E+00	0,00E+00	6,77E-05	8,49E-02	0,00E+00	-2,47E-02
Caption	<p>GWP-total = Globale Warming Potential - total; 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimer	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p>						

Process Oil 203

ADDITIONAL ENVIRONMENTAL IMPACTS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	5,67E-07	0,00E+00	7,39E-11	2,59E-09	0,00E+00	-3,25E-09
IRP ²	[kBq U235 eq.]	1,50E-01	0,00E+00	1,52E-05	9,90E-04	0,00E+00	-1,30E-02
ETP-fw ¹	[CTUe]	8,00E+01	0,00E+00	4,27E-02	7,77E-02	0,00E+00	-6,92E-01
HTP-c ¹	[CTUh]	7,54E-09	0,00E+00	8,63E-13	5,83E-12	0,00E+00	-2,95E-11
HTP-nc ¹	[CTUh]	2,81E-07	0,00E+00	3,87E-11	1,15E-10	0,00E+00	-1,38E-09
SQP ¹	-	4,16E+02	0,00E+00	2,83E-02	1,07E-01	0,00E+00	-4,01E+00
Caption	<p>PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>						
Disclaimers	<p>¹ The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.</p> <p>² 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.</p>						

Process Oil 203

RESOURCE USE PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	4,14E+01	0,00E+00	4,96E-03	1,11E-01	0,00E+00	-1,62E+00
PERM	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,14E+01	0,00E+00	4,96E-03	1,11E-01	0,00E+00	-1,62E+00
PENRE	[MJ]	7,59E+00	0,00E+00	5,76E-02	4,16E+01	0,00E+00	-2,46E+00
PENRM	[MJ]	4,13E+01	0,00E+00	0,00E+00	-4,13E+01	0,00E+00	0,00E+00
PENRT	[MJ]	4,89E+01	0,00E+00	5,76E-02	2,46E-01	0,00E+00	-2,46E+00
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m ³]	2,06E-01	0,00E+00	5,53E-06	1,94E-03	0,00E+00	-7,63E-04
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Process Oil 203

WASTE CATEGORIES AND OUTPUT FLOWS PER KG							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	1,95E-10	0,00E+00	2,20E-12	1,75E-10	0,00E+00	-4,73E-10
NHWD	[kg]	5,71E-04	0,00E+00	9,40E-06	5,23E-02	0,00E+00	-7,67E-03
RWD	[kg]	3,01E-04	0,00E+00	1,05E-07	8,93E-06	0,00E+00	-7,75E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	2,50E-01	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	2,86E+00	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Process Oil 203

BIOGENIC CARBON CONTENT PER KG		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	4,00E-01
Biogenic carbon content in accompanying packaging	[kg C]	0,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Additional information

LCA interpretation

The raw materials used during manufacturing of the products covered in this EPD are responsible for most of the impacts in the respective impact categories accounting for the majority of all impacts for all products. The main factor for the impact of a raw materials is the amount in which they are used in one of the products in this EPD.

Technical information on scenarios

Reference service life

RSL information	Value	Unit
Reference service Life	N/A	Years
Declared product properties	-	-
Design application parameters	-	-
Assumed quality of work	-	-
Outdoor environment	-	-
Indoor environment	-	-
Usage conditions	-	-
Maintenance	-	-

End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	0,28-1	kg
Collected with mixed waste	-	kg
For reuse	-	kg
For recycling	0,13-0,46	kg
For energy recovery	0,15-0,54	kg
For final disposal	-	kg
Assumptions for scenario development	-	As appropriate

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Displaced material	0,13-0,46	kg
Electricity recovery from waste incineration	0,2-0,25	MJ
Heat recovery from waste incineration	0,01-2,86	MJ


Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.2.

References

Publisher	 epddanmark www.epddanmark.dk <small>Template version 2023.2</small>
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LCA software / background data	Sphera LCA for experts version 10.7.1.28, 2023 including databases v.2024.2 https://sphera.com/ Ecoinvent v3.9.1 Life-Cycle Assessment database https://ecoinvent.org/database-login/ <i>EN 15804 reference package 3.1</i>
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General programme instructions

General Programme Instructions, version 2.0, spring 2020
www.epddanmark.dk

EN 15804

DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

PCR 2021:03, Basic Chemicals

EN 15942

DS/EN 15942:2021 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

ISO 14025

DS/EN ISO 14025:2010 – " Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

ISO 14040

DS/EN ISO 14040:2008 – “ Environmental management – Life cycle assessment – Principles and framework”

ISO 14044

DS/EN ISO 14044:2008 – “ Environmental management – Life cycle assessment – Requirements and guidelines”