





ENVIRONMENTAL PRODUCT DECLARATION

PRODUCT ENVIRONMENTAL PROFILE – OLISQ

Reference product: Olisq QWD2 DW 20-840 ET

Registration number		TRLX-00012-V01.01-EN		Drafting rules	PCR-ed4-EN-2021 09 06	
				Supplemented by	PSR-0014-ed2.0-EN2023 07 13	
Verifier a number	ccreditation	VH45		Information and reference documents	www.pep-ecopassport.org	
Date of is	sue	08.10.2024		Validity period	5 years	
Independ	ent verification of	the declara	tion and data, in co	mpliance with ISO 1402	5: 2006	
Internal		External	X			
The PCR	review was condu	_ cted by a pa	nel of experts chaii	red by Julie Orgelet (DDe	emain)	
The comp		sent PEP ma	l:2016 or EN 50693 ay not be compared		PEP BCCD	
"Environr	t complies with Is nental labels and	I declaratior			PASS PORT _®	

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1. GENERAL INFORMATION

1.1 Product information

Decorative, square surface-mounted luminaire with opal diffuser made of PMMA. Decorative attachments are available as optional accessories for precisely suitable light- and room scenes; these can also be implemented in custom colours on request. Developed and made in Germany. Suitable for use in HACCP, IFS and/or BRC Global Standard Food certified companies. For wall or ceiling mounting. For protection as well as to assist with guick mounting, the components are arranged in the box in assembly order. The cover is quickly mounted on the mounting body without tools by click locking. The feed opening and fixing points correspond to those of the series Deca. The material and structure of the covering diffuser provide uniform and shadow-free illumination of the easy-to-clean luminaire surface. With Lambertian light distribution. With slight indirect component for surface illumination. Luminaire luminous flux and light color fixed. Luminaire luminous flux 2000 lm, connected load 15 W, maximum luminous efficiency of luminaire 133 lm/W. Light colour neutral white, correlated colour temperature (CCT) 4000 K, general colour rendering index (CRI) R a > 80. Colour locus tolerance (initial MacAdam) ≤ 3 SDCM. Mean rated service life L80(t q 25 °C) = 100,000 h, mean rated service life L90(t q 25 °C) = 50,000 h. The light source is replaceable according to the ecodesign requirements (V0 (EU) 2019/2020). Replacement is without tools, the replacement light source can be obtained as a spare part. Luminaire body sheet steel. Surface coated white (RAL 9016). Luminaire dimensions (L x W x H): 325 mm x 325 mm x 62,5 mm. Safety class (EN 61140): I, protection rating (DIN EN 60529): IP40, impact resistance level in accordance with IEC 62262: IK03, testing temperature of wire glow test in accordance with IEC 60695-2-11: 650 °C. Weight: 1,6 kg. With electronic transformer, switchable. The control gear unit is replaceable in accordance with the ecodesign requirements (VO (EU) 2019/2020). The luminaire complies with the fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol. Luminaire available for 10 years, spare parts (LED module, control gear unit, optical system) for 15 years from date of invoice, subject to reasonable modifications in the interests of progress.

1. GENERAL INFORMATION

Table 1: Key technological data

Information	Unit	
Light source	-	Integrated LED module
Power supply	-	Integrated power supply
Color temperature	K	4000
Protection index for water and dust (IP)	-	IP40
Impact resistance index (IK)	-	IK03
Nominal operating voltage	V	220-240
Declared lifetime of the luminaire	Hours	100.000
Declaration lifetime of the light source	Hours	100.000
Outgoing luminous flux/Useful output flux	Lumen	2.000
Electrical input power	W	15
Luminous efficiency	Lumen/W	133
Dimension	mm	325 x 325 x 62,5
Reference use scenario	-	Diff. Indoor applications
Lifetime in years according to reference use scenario	уг	20

1.2 Goal and Scope

Following information have been used to generate the PEP:

Table 2: Goal and Scope

Information		
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours	
Reference flow / declared unit*	0.175 pieces of product	
Life cycle stages covered	Cradle-to-grave and Module D	
Product category according to PSR	Luminaires	
Product name	Olisq QWD2 DW 20-840 ET	

* The reference flow is calculated as: (1,000/outgoing luminous flux of the analyzed product in lumens) x (35,000/declared product lifetime of the analyzed product in hours)

Consequently, the reference flow of the following product correspond to: (1,000/2,000) x (35,000/100,000) = 0.175

2. CONSTITUENT MATERIAL

2.1 Overview

The product composition is shown in the following table.

Table 3: Product composition

	Weight [in kg]	Share [in %]
Total weight	1.953	100
Product	1.637	84
Packaging	0.316	16
Additional equipment	0	0

2.2 Product

The material composition of the product is shown in the following table.

Table 4: Material composition - product

	Weight [in kg]	Share [in %]
Total weight	1.637	100
Metals	0.685	42
• Steel	0.661	40
• Stainless steel	0.024	2
Plastics	0.232	14
• PMMA	0.196	12
• Polyester	0.032	2
Electronics (incl. wires)	0.720	44

2.3 Packaging

The product composition is shown in the following table.

Table 5: Material composition – packaging

	Weight [in kg]	Share [in %]
Total weight	0.316	100
Paper/cardboard	0.316	100
Plastics	0.000	

3. INFORMATION ON LIFE CYCLE STAGES



3.1 Manufacturing stage (A1-A3)

The product components are manufactured or assembled by TRILUX GmbH & Co. KG in Arnsberg (Germany). The production sites in Arnsberg, Alhama de Aragón and Zaragoza (both Spain) have certified environmental management systems in accordance with ISO 14001. The Arnsberg site also has a certified energy management system according with ISO 50001. TRILUX products are manufactured in compliance with RoHS 2011/65/EU and REACH 1907/2006

declarations.

The energy model used in manufacturing is based on Sphera's Managed LCA Content and primary information on the energy mix of TRILUX.



3.2 Distribution stage (A4)

The main market of the product is Europe and there is no specific data available. For this reason, an intracontinental transport (3,500 km by truck (diesel driven, EURO 0-6, >27t payload) to the place of use following PEP-PCR-ed4-EN-2021 09 06 is considered.



3.3 Installation stage (A5)

The product can easily be installed without any special tool. No energy or material input is required. Packaging waste is treated according to the scenario given in PEP-PSR-0014-ed2-EN-2023 07 13.



3.4 Use stage (B1-B7)

The product has no direct emissions (B1). No maintenance (B2), repair (B3), replacement (B4), or refurbishment (B5) is required. The use of the product does consume electricity (B6), but no water (B7).

The operational electricity consumption over the entire lifetime of the product is 2,350 kWh. It has been calculated according to PSR edition 2. The used energy model refers to an average European electricity grid mix from Sphera's Managed LCA Content.

3.5 End-of-life stage (C1-C4)

The product falls under the Waste from Electrical and Electronic Equipment (WEEE) directive 2012/19/ EU. Therefore, a collection rate of 100% and a typical end-of-life scenario for electronic products is assumed. All (mechanical and electronic) metals are recycled. Plastic & renewable materials are incinerated with energy recovery. Batteries & glass are landfilled.

For the transport to end-of-life treatment 1,000 km by truck according to PEP PCR is considered.

3.6 Benefits and loads beyond the system boundaries stage (D)

The recycling of the product (incl. packaging) and incineration with energy recovery generates environmental benefits and loads beyond the system boundaries (D). The calculation of this module is in line with the formulars described in PEP-PCR-ed4-EN-2021 09 06. The amount of the material flows used for the calculation are listed in the table below.

3. INFORMATION ON LIFE CYCLE STAGES

Table 7: Material flows for benefits and loads beyond the system boundaries per functional unit

	Weight [in kg]	
Total weight going into reuse	0	
Total weight of product going into recycling	1,27E-01	
Total weight of product going into incineration with energy recovery	1,60E-01	
Total weight of packaging going into recycling	4,53E-02	
Total weight of packaging going into incineration with energy recovery	4,98E-03	

The environmental information included in this study cover all stages of the life cycle ("cradle-to grave"). The life cycle is divided into manufacturing stage (A1-A3), distribution stage (A4), installation stage (A5), use stage (B1-B7, but only applicable modules are shown), End-of-life stage (C1-C4) and benefits and loads beyond the system boundaries (D). The results refer to the core environmental impact indicators and mandatory indicators describing resource use, waste categories, and output flows according to PEP-PCR-ed4,- EN-2021 09 06 and EN 15804+A2:2019.

The results have been calculated using the LCA Software "LCA for Experts 10" and the LCI database "Sphera Managed LCA Content".

4.1 Results per functional unit

The following results of the environmental declaration have been developed, considering an outgoing artificial luminous flux of 1,000 lumens over a reference lifetime of 35,000 hours.

Acronyms: GWP-total=Global Warming Potential total; GWP-biogenic=Global Warming Potential biogenic; GWPfossil=Global Warming Potential fossil; GWP-luluc=Global Warming Potential land use and land use change; ODP=Ozone Depletion; AP=Acidification; E=Eutrophication; POCP=Photochemical ozone formation; ADPE=Depletion of abiotic resources-minerals and metals; ADPF=Depletion of abiotic resources-fossil fuels; WDP=Water re- source deprivation; PERE=Renewable primary energy (without raw material); PERM=Renewable primary energy (raw material); PERT=Total use of renewable primary energy; PENRE=Non-renewable primary energy (without raw material); PENRM=Nonrenewable primary energy (raw material); PENRT=Total use of non-renewable primary energy; SM=Use of secondary materials; RSF=Use of renewable secondary fuels; NRSF=Use of non-renewable secondary fuels; FW=Net use of fresh water; HWD=Hazardous waste disposed; NHWD=Non-hazardous waste disposed; RWD=Radioactive waste disposed; CRU=Components for reuse; MFR=Materials for recycling; MER=Materials for energy recovery; EEE=Exported electricity; EET=Exported thermal energy; Biog. C in product=Biogenic carbon content of the product; Biog. C in packaging=Biogenic carbon content of the associated packaging

Table 8: Results core environmental impact indicators per functional unit (0.175 kg product incl. packaging)

Impact category	Unit	Total (excl. D)	Manufactur	ing		Distribution	Installation
			A1	A2	A3	A4	A5
GWP - total	kg CO2 eq.	8,89E+01	2,46E+00	2,52E-02	6,10E-01	9,02E-02	4,52E-02
GWP - fossil	kg CO2 eq.	8,81E+01	2,46E+00	2,38E-02	5,86E-01	8,84E-02	2,82E-02
GWP - biogenic	kg CO2 eq.	7,82E-01	1,17E-03	1,16E-03	2,37E-02	1,57E-03	1,69E-02
GWP - luluc	kg CO2 eq.	1,20E-02	1,66E-03	1,67E-04	4,15E-04	2,19E-04	1,12E-04
ODP	kg CFC-11 eq.	1,58E-09	1,17E-11	2,76E-15	7,41E-12	7,52E-15	4,76E-14
AP	Mole of H+ eq.	1,93E-01	9,85E-03	1,69E-04	7,77E-04	1,54E-03	5,14E-05
EP - freshwater	kg P eq.	3,46E-04	2,52E-05	6,71E-08	4,02E-06	1,01E-07	7,60E-07
EP - marine	kg N eq.	4,61E-02	1,79E-03	6,14E-05	3,02E-04	5,52E-04	2,33E-05
EP - terrestrial	Mole of N eq.	4,81E-01	1,86E-02	6,79E-04	3,10E-03	6,05E-03	2,18E-04
POCP	kg NMVOC eq.	1,23E-01	5,26E-03	1,64E-04	7,46E-04	1,52E-03	4,93E-05
ADPE	kg Sb eq.	2,40E-04	2,27E-04	1,25E-09	8,17E-08	2,15E-09	1,11E-08
ADPF	MJ	1,83E+03	3,42E+01	3,19E-01	8,82E+00	1,12E+00	3,96E-01
WDP	m³ world equiv.	1,95E+01	5,41E-01	2,27E-04	1,91E-02	3,93E-04	1,59E-03
Impact category	Unit	Use	End of life				Benefits and loads beyond the system boundaries stage
		B2	B6	C2	C3	C4	D
GWP - total	kg CO2 eq.	0.00E+00	8,54E+01	2,09E-02	2,02E-01	0.00E+00	-3,88E-01
GWP - fossil	kg CO2 eq.	0.00E+00	8,47E+01	1,94E-02	2,02E-01	0.00E+00	-4,54E-01
GWP - biogenic	kg CO2 eq.	0.00E+00	7,36E-01	1,26E-03	1,50E-04	0.00E+00	6,59E-02
GWP - luluc	kg CO2 eq.	0.00E+00	9,20E-03	1,82E-04	5,27E-06	0.00E+00	-4,64E-04
ODP	kg CFC-11 eq.	0.00E+00	1,56E-09	2,56E-15	3,51E-13	0.00E+00	-2,90E-13
AP	Mole of H+ eq.	0.00E+00	1,81E-01	3,16E-05	1,08E-04	0.00E+00	-1,91E-03
EP - freshwater	kg P eq.	0.00E+00	3,16E-04	7,20E-08	8,21E-08	0.00E+00	-1,47E-06
EP - marine	kg N eq.	0.00E+00	4,33E-02	1,22E-05	3,92E-05	0.00E+00	-4,10E-04
EP - terrestrial	Mole of N eq.	0.00E+00	4,52E-01	1,40E-04	4,90E-04	0.00E+00	-4,42E-03
POCP	kg NMVOC eq.	0.00E+00	1,15E-01	2,80E-05	1,02E-04	0.00E+00	-1,21E-03
ADPE	kg Sb eq.	0.00E+00	1,31E-05	1,31E-09	2,60E-09	0.00E+00	-1,87E-04
ADPF	MJ	0.00E+00	1,78E+03	2,68E-01	4,13E-01	0.00E+00	-4,94E+00
WDP	m³ world equiv.	0.00E+00	1,89E+01	2,38E-04	3,15E-02	0.00E+00	-9,53E-02

Table 9: Results indicators describing resource use, waste categories, and output flows per functional unit (0.175 kg product incl. packaging)

Impact category	Unit	Total (excl. D)	Manufactur	Manufacturing Dis			Installation	
			A1	A2	A3	A4	A5	
PERE	MJ	1,08E+03	7,11E+00	1,81E-02	3,29E+00	2,68E-02	1,78E-01	
PERM	MJ	1,01E+00	2,18E-01	0,00E+00	8,70E-01	0,00E+00	-8,24E-02	
PERT	MJ	1,08E+03	7,32E+00	1,81E-02	4,16E+00	2,68E-02	9,60E-02	
PENRE	MJ	1,83E+03	3,15E+01	3,20E-01	8,85E+00	1,12E+00	3,96E-01	
PENRM	MJ	1,50E+00	2,70E+00	0,00E+00	-2,33E-02	0,00E+00	0,00E+00	
PENRT	MJ	1,83E+03	3,42E+01	3,20E-01	8,83E+00	1,12E+00	3,96E-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	M3	8,84E-01	2,02E-02	1,99E-05	2,50E-03	3,01E-05	3,92E-04	
HWD	kg	3,33E-07	2,87E-07	9,96E-13	3,22E-08	3,51E-12	1,24E-08	
NHWD	kg	1,49E+00	1,30E-01	4,43E-05	2,20E-02	1,22E-04	5,00E-03	
RWD	kg	2,85E-01	7,81E-04	5,48E-07	4,20E-04	1,54E-06	8,12E-06	
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
MFR	kg	2,43E-01	0.00E+00	0.00E+00	5.10E-03	0,00E+00	4,53E-02	
MER	kg	1,84E-01	0.00E+00	0.00E+00	5.44E-03	0,00E+00	4,98E-03	
EEE	MJ	3,17E-01	1,41E-05	0,00E+00	0,00E+00	0,00E+00	1,27E-02	
EET	kg	7,27E-01	2,53E-05	0,00E+00	0,00E+00	0,00E+00	1,94E-02	
Biog. C in product	kg	0,00E+00	0.00E+00	0.00E+00	0.00E+00	0,00E+00	0,00E+00	
Biog. C in packaging	kg	2,74E+00	5,52E-01	0,00E+00	2,19E+00	0,00E+00	0,00E+00	
Impact category	Unit	Use	End of life				Benefits and loads beyond the system boundaries stage	
		B2	B6	C2	C3	C4	D	
PERE	MJ	0.00E+00	1,07E+03	1,95E-02	2,19E-01	0.00E+00	-1,50E+00	
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0,00E+00	
PERT	MJ	0.00E+00	1,07E+03	1,95E-02	2,19E-01	0.00E+00	-1,50E+00	
PENRE	MJ	0.00E+00	1,78E+03	2,69E-01	1,59E+00	0.00E+00	-4,99E+00	
PENRM	MJ	0.00E+00	0,00E+00	0,00E+00	-1,18E+00	0.00E+00	0,00E+00	
PENRT	MJ	0.00E+00	1,78E+03	2,69E-01	4,13E-01	0.00E+00	-4,99E+00	
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1,28E-01	
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	M3	0.00E+00	8,60E-01	2,14E-05	8,15E-04	0.00E+00	-5,65E-03	
HWD	kg	0.00E+00	0,00E+00	8,34E-13	1,47E-09	0.00E+00	-1,30E-08	
NHWD	kg	0.00E+00	1,31E+00	4,10E-05	3,00E-02	0.00E+00	-1,61E-02	
RWD	kg	0.00E+00	2,83E-01	5,04E-07	5,04E-05	0.00E+00	-9,24E-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	1,27E-01	0.00E+00	0,00E+00	
MER	kg	0.00E+00	0,00E+00	0,00E+00	1,60E-01	0.00E+00	0,00E+00	
			0.005.00	0,00E+00	3,04E-01	0.00E+00	0,00E+00	
	MJ	0.00E+00	0,00E+00					
EEE	MJ kg	0.00E+00 0.00E+00	0,00E+00	0,00E+00	7,07E-01	0.00E+00	0,00E+00	
EEE EET Biog. C in product				0,00E+00 0.00E+00	7,07E-01 0.00E+00	0.00E+00 0.00E+00	0,00E+00 0,00E+00	

4.2 Results per unit of product

The following results of the environmental declaration have been developed, considering one piece of product.

Impact category	Unit	Total (excl. D)	Manufacturi	ng		Distribution	Installation
			A1	A2	A3	A4	A5
GWP - total	kg CO2 eq.	5,08E+02	1,41E+01	1,44E-01	3,48E+00	5,15E-01	2,58E-01
GWP - fossil	kg CO2 eq.	5,03E+02	1,41E+01	1,36E-01	3,35E+00	5,05E-01	1,61E-01
GWP - biogenic	kg CO2 eq.	4,47E+00	6,71E-03	6,63E-03	1,35E-01	8,97E-03	9,65E-02
GWP - luluc	kg CO2 eq.	6,84E-02	9,51E-03	9,52E-04	2,37E-03	1,25E-03	6,39E-04
ODP	kg CFC-11 eq.	9,04E-09	6,66E-11	1,57E-14	4,23E-11	4,30E-14	2,72E-13
AP	Mole of H+ eq.	1,11E+00	5,63E-02	9,68E-04	4,44E-03	8,80E-03	2,94E-04
EP - freshwater	kg P eq.	1,98E-03	1,44E-04	3,83E-07	2,30E-05	5,75E-07	4,35E-06
EP - marine	kg N eq.	2,63E-01	1,02E-02	3,51E-04	1,73E-03	3,16E-03	1,33E-04
EP - terrestrial	Mole of N eq.	2,75E+00	1,06E-01	3,88E-03	1,77E-02	3,46E-02	1,24E-03
POCP	kg NMVOC eq.	7,05E-01	3,01E-02	9,39E-04	4,26E-03	8,67E-03	2,81E-04
ADPE	kg Sb eq.	1,37E-03	1,30E-03	7,13E-09	4,67E-07	1,23E-08	6,35E-08
ADPF	MJ	1,04E+04	1,95E+02	1,82E+00	5,04E+01	6,38E+00	2,26E+00
WDP	m³ world equiv.	1,11E+02	3,09E+00	1,30E-03	1,09E-01	2,24E-03	9,08E-03
Impact category	Unit	Use	End of life				Benefits and loads beyond the system boundaries stage
		B2	B6	C2	C3	C4	D
GWP - total	kg CO2 eq.	0.00E+00	4,88E+02	1,19E-01	1,15E+00	0.00E+00	-2,22E+00
GWP - fossil	kg CO2 eq.	0.00E+00	4,84E+02	1,11E-01	1,15E+00	0.00E+00	-2,59E+00
GWP - biogenic	kg CO2 eq.	0.00E+00	4,21E+00	7,22E-03	8,54E-04	0.00E+00	3,77E-01
GWP - luluc	kg CO2 eq.	0.00E+00	5,26E-02	1,04E-03	3,01E-05	0.00E+00	-2,65E-03
ODP	kg CFC-11 eq.	0.00E+00	8,93E-09	1,46E-14	2,01E-12	0.00E+00	-1,66E-12
AP	Mole of H+ eq.	0.00E+00	1,03E+00	1,80E-04	6,14E-04	0.00E+00	-1,09E-02
EP - freshwater	kg P eq.	0.00E+00	1,81E-03	4,11E-07	4,69E-07	0.00E+00	-8,41E-06
EP - marine	kg N eq.	0.00E+00	2,47E-01	6,96E-05	2,24E-04	0.00E+00	-2,34E-03
EP - terrestrial	Mole of N eq.	0.00E+00	2,58E+00	8,01E-04	2,80E-03	0.00E+00	-2,53E-02
POCP	kg NMVOC eq.	0.00E+00	6,60E-01	1,60E-04	5,84E-04	0.00E+00	-6,94E-03
ADPE	kg Sb eq.	0.00E+00	7,48E-05	7,46E-09	1,49E-08	0.00E+00	-1,07E-03
ADPF	MJ	0.00E+00	1,02E+04	1,53E+00	2,36E+00	0.00E+00	-2,82E+01

Table 10: Results core environmental impact indicators per unit of product

Table 11: Results indicators describing resource use, waste categories, and output flows per unit of product

Impact category	Unit	Total (excl. D)	Manufactur	ing		Distribution	Installation
			A1	A2	A3	A4	A5
PERE	MJ	6,15E+03	4,06E+01	1,04E-01	1,88E+01	1,53E-01	1,02E+00
PERM	MJ	5,75E+00	1,24E+00	0,00E+00	4,97E+00	0,00E+00	-4,71E-01
PERT	MJ	6,16E+03	4,18E+01	1,04E-01	2,38E+01	1,53E-01	5,49E-01
PENRE	MJ	1,04E+04	1,80E+02	1,83E+00	5,06E+01	6,40E+00	2,27E+00
PENRM	MJ	8,56E+00	1,54E+01	0,00E+00	-1,33E-01	0,00E+00	0,00E+00
PENRT	MJ	1,04E+04	1,96E+02	1,83E+00	5,04E+01	6,40E+00	2,27E+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	M3	5,05E+00	1,16E-01	1,14E-04	1,43E-02	1,72E-04	2,24E-03
HWD	kg	1,90E-06	1,64E-06	5,69E-12	1,84E-07	2,01E-11	7,06E-08
NHWD	kg	8,53E+00	7,41E-01	2,53E-04	1,26E-01	6,97E-04	2,85E-02
RWD	kg	1,63E+00	4,46E-03	3,13E-06	2,40E-03	8,80E-06	4,64E-05
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	1,39E+00	0,00E+00	0,00E+00	4,05E-01	0,00E+00	2,59E-01
MER	kg	1,05E+00	0,00E+00	0,00E+00	1,11E-01	0,00E+00	2,84E-02
EEE	MJ	1,81E+00	8,08E-05	0,00E+00	0,00E+00	0,00E+00	7,26E-02
EET	kg	4,15E+00	1,45E-04	0,00E+00	0,00E+00	0,00E+00	1,11E-01
Biog. C in product	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biog. C in packaging	kg	1,57E+01	3,16E+00	0,00E+00	1,25E+01	0,00E+00	0,00E+00
Impact category	Unit	Use	End of life				Benefits and loads beyond the system boundaries stage
		B2	B6	C2	C3	C4	D
PERE	MJ	0.00E+00	6,09E+03	1,12E-01	1,25E+00	0.00E+00	-8,57E+00
PERE	MJ MJ	0.00E+00 0.00E+00	6,09E+03 0,00E+00	1,12E-01 0,00E+00	1,25E+00 0,00E+00	0.00E+00 0.00E+00	-8,57E+00 0,00E+00
PERM	MJ	0.00E+00	0,00E+00	0,00E+00	0,00E+00	0.00E+00	0,00E+00
PERM PERT PENRE	MJ	0.00E+00 0.00E+00	0,00E+00 6,09E+03	0,00E+00 1,12E-01	0,00E+00 1,25E+00	0.00E+00 0.00E+00	0,00E+00 -8,57E+00
PERM	MJ MJ	0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04	0,00E+00 1,12E-01 1,54E+00	0,00E+00 1,25E+00 9,09E+00	0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01
PERM PERT PENRE PENRM	MJ MJ MJ	0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00	0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00
PERM PERT PENRE PENRM PENRT	MJ MJ MJ MJ	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01
PERM PERT PENRE PENRM PENRT SM	MJ MJ MJ MJ	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+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 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01
PERM PERT PENRE PENRM PENRT SM RSF	MJ MJ MJ MJ MJ kg 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 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+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	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00
PERM PERT PENRE PENRM PENRT SM RSF NRSF	MJ MJ MJ MJ MJ MJ MJ 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 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0.00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+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 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00
PERM PERT PENRE PENRM PENRT SM RSF RSF FW HWD	MJ MJ MJ MJ kg MJ MJ MJ MJ M3	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 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0.00E+00 4,91E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 0.00E+00 1,22E-04	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03	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 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02
PERM PERT PENRE PENRM PENRT SM RSF NRSF FW HWD NHWD	MJ MJ MJ MJ kg MJ MJ MJ M3 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	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 4,91E+00 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09	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 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08
PERM PERT PENRE PENRM PENRT SM RSF RSF FW HWD NHWD RWD	MJ MJ MJ MJ kg MJ MJ M3 kg 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 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0.00E+00 4,91E+00 0,00E+00 7,46E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01	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	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02
PERM PERT PENRE PENRM PENRT SM RSF NRSF FW	MJ MJ MJ MJ kg MJ MJ MJ MJ M3 kg kg 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 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0,00E+00 4,91E+00 0,00E+00 7,46E+00 1,62E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04 2,88E-06	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01 2,88E-04	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 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02 -5,28E-04
PERM PERT PENRE PENRM PENRT SM RSF NRSF FW HWD NHWD RWD CRU	MJ MJ MJ MJ kg MJ MJ M3 kg kg kg 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 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0,00E+00 4,91E+00 0,00E+00 7,46E+00 1,62E+00 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04 2,88E-06 0,00E+00	0,00E+00 1,25E+00 9,09E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01 2,88E-04 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 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02 -5,28E-04 0,00E+00
PERM PERT PENRE PENRM PENRT SM RSF RSF W HWD NHWD CRU MFR MER	MJ MJ MJ MJ MJ MJ MJ MJ M3 kg kg kg kg 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 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0,00E+00 4,91E+00 0,00E+00 1,62E+00 0,00E+00 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 0.00E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04 2,88E-06 0,00E+00 0,00E+00	0,00E+00 1,25E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01 2,88E-04 0,00E+00 7,25E-01	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 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02 -5,28E-04 0,00E+00 0,00E+00
PERM PERT PENRE PENRM PENRT SM RSF RSF W HWD CRU CRU EEE	MJ MJ MJ MJ MJ kg MJ MJ M3 kg kg kg kg kg kg 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 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 4,91E+00 0,00E+00 7,46E+00 1,62E+00 0,00E+00 0,00E+00 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 1,54E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04 2,88E-06 0,00E+00 0,00E+00 0,00E+00	0,00E+00 1,25E+00 -6,73E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01 2,88E-04 0,00E+00 7,25E-01 9,12E-01	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 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02 -5,28E-04 0,00E+00 0,00E+00 0,00E+00
PERM PERT PENRE PENRM PENRT SM RSF NRSF FW HWD NHWD RWD CRU MFR	MJ MJ MJ MJ MJ MJ MJ MJ M3 kg kg kg kg kg kg kg 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 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 6,09E+03 1,02E+04 0,00E+00 1,02E+04 0.00E+00 0.00E+00 0,00E+00 4,91E+00 0,00E+00 1,62E+00 1,62E+00 0,00E+00 0,00E+00 0,00E+00	0,00E+00 1,12E-01 1,54E+00 0,00E+00 0.00E+00 0.00E+00 1,22E-04 4,76E-12 2,35E-04 2,88E-06 0,00E+00 0,00E+00 0,00E+00 0,00E+00	0,00E+00 1,25E+00 9,09E+00 2,36E+00 0.00E+00 0.00E+00 0.00E+00 4,66E-03 8,39E-09 1,72E-01 2,88E-04 0,00E+00 7,25E-01 9,12E-01 1,74E+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 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	0,00E+00 -8,57E+00 -2,85E+01 0,00E+00 -2,85E+01 7,30E-01 0,00E+00 0,00E+00 -3,23E-02 -7,43E-08 -9,23E-02 -5,28E-04 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0,00E+00