Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Ecochain

Product:	3001646 - KG Reducer DN150xDN125 EXP	LCA standard:	EN15804+A2 (2019)
Unit:	1 piece	Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Manufacturer:	Wavin - PL -Buk - Extra products	Externally verified:	Yes
		Issue date:	08-06-2023
		End of validity:	08-06-2028
		Verifier:	Martijn van Hövell - SGS Search

WAVIN An Orbia business.

SGS SEARCH

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply   A2 Transport   A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use   B2 Maintenance   B3 Repair   B4 Replacement   B5 Refurbishment
B6 Operational energy use   B7 Operational water use

End-of-Life stage

C1 De-construction demolition   C2 Transport   C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.24E+0	1.81E-2	1.45E-4	1.26E+0	1.61E-2	8.12E-1	5.33E-3	-7.29E-1	1.36E+0
GWP-f	kg CO2 eq	1.46E+0	1.80E-2	1.46E-4	1.48E+0	1.60E-2	5.57E-1	5.33E-3	-7.74E-1	1.28E+0
GWP-b	kg CO2 eq	-2.21E-1	1.10E-5	-1.54E-6	-2.21E-1	9.75E-6	2.55E-1	6.64E-6	4.57E-2	7.98E-2
GWP-luluc	kg CO2 eq	1.59E-3	6.39E-6	1.49E-7	1.59E-3	5.68E-6	1.98E-4	1.38E-7	-8.97E-4	9.00E-4
ODP	kg CFC11 eq	7.04E-7	4.16E-9	8.26E-12	7.08E-7	3.70E-9	5.51E-8	1.95E-10	-3.49E-7	4.18E-7
AP	mol H+ eq	7.07E-3	1.03E-4	1.47E-6	7.18E-3	9.14E-5	9.51E-4	4.75E-6	-3.02E-3	5.21E-3
EP-fw	kg P eq	6.66E-5	1.49E-7	8.24E-9	6.67E-5	1.32E-7	6.65E-6	6.23E-9	-3.06E-5	4.29E-5
EP-m	kg N eq	1.26E-3	3.68E-5	1.55E-7	1.29E-3	3.27E-5	2.36E-4	3.27E-6	-5.61E-4	1.00E-3
EP-T	mol N eq	1.37E-2	4.05E-4	1.85E-6	1.41E-2	3.61E-4	2.60E-3	1.90E-5	-6.08E-3	1.10E-2
POCP	kg NMVOC eq	4.61E-3	1.16E-4	6.28E-7	4.73E-3	1.03E-4	7.73E-4	6.54E-6	-2.06E-3	3.55E-3
ADP-mm	kg Sb eq	1.23E-3	4.67E-7	1.97E-8	1.23E-3	4.15E-7	3.70E-6	4.76E-9	-1.57E-5	1.21E-3
ADP-f	MJ	3.56E+1	2.77E-1	1.36E-3	3.59E+1	2.46E-1	2.53E+0	1.43E-2	-1.81E+1	2.06E+1
WDP	m3 depriv.	2.14E+0	8.50E-4	5.22E-5	2.14E+0	7.56E-4	1.00E-1	9.19E-5	-1.05E+0	1.19E+0
PM	disease inc.	5.40E-8	1.63E-9	9.08E-12	5.56E-8	1.45E-9	1.16E-8	9.81E-11	-2.52E-8	4.37E-8
IR	kBq U-235 eq	8.17E-2	1.21E-3	1.02E-6	8.29E-2	1.08E-3	8.98E-3	6.57E-5	-3.62E-2	5.69E-2
ETP-fw	CTUe	4.16E+1	2.25E-1	1.21E-2	4.19E+1	2.00E-1	1.97E+1	2.17E-1	-1.41E+1	4.78E+1
HTP-c	CTUh	1.28E-9	8.01E-12	6.17E-13	1.29E-9	7.12E-12	2.86E-10	3.94E-13	-4.70E-10	1.11E-9
HTP-nc	CTUh	3.82E-8	2.68E-10	1.57E-11	3.85E-8	2.39E-10	6.86E-9	4.19E-11	-1.40E-8	3.17E-8
SQP	Pt	2.66E+1	2.37E-1	2.24E-3	2.69E+1	2.11E-1	1.55E+0	3.65E-2	-2.71E+1	1.54E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.42E+0	3.98E-3	2.40E-2	8.45E+0	3.53E-3	1.82E-1	5.39E-4	-4.79E+0	3.84E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.42E+0	3.98E-3	2.40E-2	8.45E+0	3.53E-3	1.82E-1	5.39E-4	-4.79E+0	3.84E+0
PENRE	MJ	3.82E+1	2.94E-1	1.44E-3	3.85E+1	2.62E-1	2.70E+0	1.51E-2	-1.95E+1	2.19E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.82E+1	2.94E-1	1.44E-3	3.85E+1	2.62E-1	2.70E+0	1.51E-2	-1.95E+1	2.19E+1
PET	MJ	4.66E+1	2.98E-1	2.55E-2	4.69E+1	2.65E-1	2.88E+0	1.57E-2	-2.43E+1	2.58E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	2.54E-2	3.14E-5	1.46E-6	2.55E-2	2.79E-5	2.85E-3	1.75E-5	-1.23E-2	1.61E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.75E-4	7.09E-7	2.73E-13	1.76E-4	6.30E-7	4.21E-6	1.74E-8	-1.64E-5	1.65E-4
NHWD	kg	1.54E-1	1.72E-2	1.05E-6	1.71E-1	1.53E-2	9.49E-2	6.27E-2	-6.48E-2	2.79E-1
RWD	kg	7.58E-5	1.88E-6	1.10E-13	7.77E-5	1.68E-6	9.65E-6	9.28E-8	-3.28E-5	5.63E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0