

Environmental Profile

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

Ecochain v3.5.64



Product: 3003810 - PE Concentric Reducer S12,5 110x90

Unit: 1 piece

Manufacturer: Wavin - IT - SM Maddalena

LCA standard: EN15804+A2 (2019)

Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off

Externally verified: **Yes**

Issue date: 24-11-2022

End of validity: 24-11-2027

Verifier: Martijn van Hövell - 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 - IT - SM Maddalena (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

Use stage

End-of-Life stage

A1 Raw material supply A2 Transport A3 Manufacturing

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

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

Construction process stage

Benefits and loads beyond the system boundaries

A4 Transport gate to site

A5 Assembly / Construction installation process

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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

This document and supporting material contain confidential and proprietary business information of Wavin - IT - SM Maddalena. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - IT - SM Maddalena.

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.92E-1	2.56E-2	1.50E-2	2.33E-1	2.63E-3	1.24E-1	1.46E-3	-1.28E-1	2.32E-1
GWP-f	kg CO2 eq	2.21E-1	2.55E-2	1.28E-2	2.59E-1	2.63E-3	8.71E-2	1.46E-3	-1.44E-1	2.06E-1
GWP-b	kg CO2 eq	-2.82E-2	1.45E-5	1.08E-3	-2.71E-2	1.60E-6	3.65E-2	1.10E-6	1.59E-2	2.53E-2
GWP-luluc	kg CO2 eq	1.68E-4	9.38E-6	1.08E-3	1.26E-3	9.32E-7	1.53E-5	2.09E-8	-1.58E-4	1.12E-3
ODP	kg CFC11 eq	1.36E-8	5.85E-9	1.29E-9	2.07E-8	6.07E-10	2.18E-9	3.11E-11	-7.95E-9	1.56E-8
AP	mol H+ eq	8.69E-4	1.79E-4	5.18E-5	1.10E-3	1.50E-5	8.99E-5	7.42E-7	-4.67E-4	7.38E-4
EP-fw	kg P eq	4.58E-6	2.05E-7	2.00E-7	4.99E-6	2.17E-8	4.46E-7	9.64E-10	-3.24E-6	2.22E-6
EP-m	kg N eq	1.62E-4	5.97E-5	8.75E-6	2.31E-4	5.37E-6	2.69E-5	5.25E-7	-9.14E-5	1.72E-4
EP-T	mol N eq	1.78E-3	6.59E-4	9.83E-5	2.54E-3	5.91E-5	2.96E-4	3.01E-6	-1.03E-3	1.87E-3
POCP	kg NMVOC eq	7.64E-4	1.85E-4	3.05E-5	9.79E-4	1.69E-5	9.29E-5	1.18E-6	-4.26E-4	6.65E-4
ADP-mm	kg Sb eq	3.00E-6	6.37E-7	3.13E-7	3.95E-6	6.81E-8	3.57E-7	7.45E-10	-1.03E-6	3.35E-6
ADP-f	MJ	7.42E+0	3.89E-1	1.69E-1	7.97E+0	4.04E-2	2.74E-1	2.27E-3	-4.16E+0	4.13E+0
WDP	m3 depriv.	1.60E-1	1.17E-3	5.98E-2	2.21E-1	1.24E-4	5.17E-3	1.04E-5	-1.01E-1	1.25E-1
PM	disease inc.	9.12E-9	2.23E-9	5.19E-10	1.19E-8	2.38E-10	1.46E-9	1.56E-11	-4.95E-9	8.64E-9
IR	kBq U-235 eq	7.10E-3	1.70E-3	1.58E-4	8.96E-3	1.77E-4	8.49E-4	1.06E-5	-3.58E-3	6.42E-3
ETP-fw	CTUe	3.47E+0	3.13E-1	2.67E-1	4.05E+0	3.28E-2	3.22E-1	2.00E-3	-1.93E+0	2.48E+0
HTP-c	CTUh	7.83E-11	1.14E-11	1.42E-11	1.04E-10	1.17E-12	3.72E-11	5.52E-14	-4.73E-11	9.51E-11
HTP-nc	CTUh	1.63E-9	3.69E-10	2.95E-10	2.30E-9	3.91E-11	4.66E-10	1.27E-12	-1.02E-9	1.78E-9
SQP	Pt	3.44E+0	3.21E-1	3.08E-2	3.79E+0	3.46E-2	2.15E-1	5.83E-3	-5.13E+0	-1.08E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.08E-1	5.45E-3	5.85E-1	1.20E+0	5.80E-4	1.32E-2	8.99E-5	-8.99E-1	3.13E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.08E-1	5.45E-3	5.85E-1	1.20E+0	5.80E-4	1.32E-2	8.99E-5	-8.99E-1	3.13E-1
PENRE	MJ	7.96E+0	4.13E-1	1.84E-1	8.55E+0	4.29E-2	2.91E-1	2.41E-3	-4.48E+0	4.41E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.96E+0	4.13E-1	1.84E-1	8.55E+0	4.29E-2	2.91E-1	2.41E-3	-4.48E+0	4.41E+0
PET	MJ	8.56E+0	4.18E-1	7.69E-1	9.75E+0	4.35E-2	3.05E-1	2.50E-3	-5.38E+0	4.72E+0
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	2.57E-3	4.30E-5	1.42E-3	4.03E-3	4.57E-6	1.55E-4	2.81E-6	-1.82E-3	2.38E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.61E-6	9.68E-7	1.64E-7	2.75E-6	1.03E-7	4.63E-7	2.73E-9	-1.52E-6	1.79E-6
NHWD	kg	1.21E-2	2.32E-2	1.60E-3	3.69E-2	2.50E-3	1.34E-2	1.00E-2	-5.65E-3	5.71E-2
RWD	kg	7.74E-6	2.65E-6	1.75E-7	1.06E-5	2.75E-7	1.09E-6	1.49E-8	-3.39E-6	8.55E-6
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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777