

# Environmental Profile

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

Ecochain v3.5.64



Product: 3003838 - PE Eccentric Reducer 125x110  
 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

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 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 non-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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.65E-1	3.41E-2	2.01E-2	3.20E-1	3.53E-3	1.55E-1	1.95E-3	-1.71E-1	3.09E-1
GWP-f	kg CO2 eq	2.93E-1	3.41E-2	1.72E-2	3.44E-1	3.53E-3	1.17E-1	1.95E-3	-1.91E-1	2.75E-1
GWP-b	kg CO2 eq	-2.78E-2	1.93E-5	1.45E-3	-2.63E-2	2.14E-6	3.85E-2	1.47E-6	2.03E-2	3.25E-2
GWP-luluc	kg CO2 eq	2.15E-4	1.25E-5	1.45E-3	1.68E-3	1.25E-6	2.04E-5	2.80E-8	-2.00E-4	1.50E-3
ODP	kg CFC11 eq	1.79E-8	7.81E-9	1.73E-9	2.74E-8	8.13E-10	2.90E-9	4.17E-11	-1.04E-8	2.07E-8
AP	mol H+ eq	1.15E-3	2.39E-4	6.94E-5	1.46E-3	2.01E-5	1.20E-4	9.95E-7	-6.12E-4	9.86E-4
EP-fw	kg P eq	6.01E-6	2.73E-7	2.67E-7	6.55E-6	2.90E-8	5.96E-7	1.29E-9	-4.20E-6	2.98E-6
EP-m	kg N eq	2.13E-4	7.97E-5	1.17E-5	3.04E-4	7.19E-6	3.58E-5	7.04E-7	-1.19E-4	2.29E-4
EP-T	mol N eq	2.35E-3	8.79E-4	1.32E-4	3.36E-3	7.92E-5	3.93E-4	4.04E-6	-1.34E-3	2.49E-3
POCP	kg NMVOC eq	1.01E-3	2.47E-4	4.09E-5	1.30E-3	2.26E-5	1.23E-4	1.58E-6	-5.58E-4	8.87E-4
ADP-mm	kg Sb eq	3.98E-6	8.50E-7	4.19E-7	5.25E-6	9.12E-8	4.76E-7	9.98E-10	-1.35E-6	4.48E-6
ADP-f	MJ	9.90E+0	5.19E-1	2.26E-1	1.06E+1	5.41E-2	3.65E-1	3.04E-3	-5.54E+0	5.52E+0
WDP	m3 depriv.	2.14E-1	1.56E-3	8.01E-2	2.96E-1	1.66E-4	6.92E-3	1.39E-5	-1.34E-1	1.69E-1
PM	disease inc.	1.19E-8	2.98E-9	6.95E-10	1.56E-8	3.18E-10	1.95E-9	2.09E-11	-6.36E-9	1.15E-8
IR	kBq U-235 eq	9.40E-3	2.27E-3	2.11E-4	1.19E-2	2.37E-4	1.13E-3	1.42E-5	-4.67E-3	8.59E-3
ETP-fw	CTUe	4.50E+0	4.18E-1	3.57E-1	5.27E+0	4.40E-2	4.29E-1	2.68E-3	-2.47E+0	3.28E+0
HTP-c	CTUh	1.00E-10	1.53E-11	1.90E-11	1.34E-10	1.56E-12	4.96E-11	7.39E-14	-5.93E-11	1.26E-10
HTP-nc	CTUh	2.14E-9	4.92E-10	3.95E-10	3.03E-9	5.24E-11	6.21E-10	1.71E-12	-1.32E-9	2.39E-9
SQP	Pt	3.73E+0	4.29E-1	4.13E-2	4.20E+0	4.63E-2	2.87E-1	7.81E-3	-6.00E+0	-1.46E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.86E-1	7.27E-3	7.83E-1	1.48E+0	7.77E-4	1.76E-2	1.20E-4	-1.07E+0	4.27E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.86E-1	7.27E-3	7.83E-1	1.48E+0	7.77E-4	1.76E-2	1.20E-4	-1.07E+0	4.27E-1
PENRE	MJ	1.06E+1	5.51E-1	2.47E-1	1.14E+1	5.75E-2	3.89E-1	3.23E-3	-5.98E+0	5.89E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.06E+1	5.51E-1	2.47E-1	1.14E+1	5.75E-2	3.89E-1	3.23E-3	-5.98E+0	5.89E+0
PET	MJ	1.13E+1	5.58E-1	1.03E+0	1.29E+1	5.83E-2	4.06E-1	3.35E-3	-7.04E+0	6.32E+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	3.42E-3	5.73E-5	1.90E-3	5.38E-3	6.13E-6	2.07E-4	3.76E-6	-2.39E-3	3.21E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.08E-6	1.29E-6	2.20E-7	3.59E-6	1.38E-7	6.17E-7	3.65E-9	-1.97E-6	2.38E-6
NHWD	kg	1.56E-2	3.09E-2	2.15E-3	4.87E-2	3.36E-3	1.78E-2	1.34E-2	-7.10E-3	7.62E-2
RWD	kg	1.02E-5	3.53E-6	2.35E-7	1.40E-5	3.68E-7	1.45E-6	1.99E-8	-4.42E-6	1.14E-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



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