

Environmental Profile

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

Ecochain v3.5.80



Product: 4066381 - PERT/EVOH/PERT Pipe IV 16x2.0 L=600 Pro5
Unit: 1 piece
Manufacturer: Wavin - PL - MPC

LCA standard: EN15804+A2 (2019)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 30-06-2023
End of validity: 30-06-2028
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 - PL - MPC (2021). (☑ = 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 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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.03E+2	3.89E+0	8.93E+0	1.16E+2	5.90E-1	1.18E+2	2.59E+0	-6.87E+1	1.69E+2
GWP-f	kg CO2 eq	1.13E+2	3.88E+0	7.70E+0	1.25E+2	5.90E-1	1.08E+2	2.59E+0	-6.87E+1	1.67E+2
GWP-b	kg CO2 eq	-9.90E+0	1.46E-3	1.23E+0	-8.67E+0	3.58E-4	1.04E+1	1.96E-3	7.75E-2	1.82E+0
GWP-luluc	kg CO2 eq	5.56E-2	1.56E-3	6.60E-3	6.37E-2	2.09E-4	2.65E-4	3.78E-5	-7.71E-3	5.65E-2
ODP	kg CFC11 eq	3.20E-6	8.48E-7	4.39E-7	4.48E-6	1.36E-7	1.13E-7	5.58E-8	-7.20E-6	-2.41E-6
AP	mol H+ eq	4.19E-1	3.49E-2	6.45E-2	5.19E-1	3.36E-3	1.31E-2	1.33E-3	-5.77E-2	4.79E-1
EP-fw	kg P eq	2.06E-3	3.64E-5	3.70E-4	2.47E-3	4.85E-6	1.34E-5	1.74E-6	-1.54E-4	2.34E-3
EP-m	kg N eq	7.32E-2	1.07E-2	7.60E-3	9.15E-2	1.20E-3	5.88E-3	9.93E-4	-1.84E-2	8.11E-2
EP-T	mol N eq	8.23E-1	1.18E-1	8.62E-2	1.03E+0	1.32E-2	6.68E-2	5.41E-3	-2.04E-1	9.09E-1
POCP	kg NMVOC eq	3.86E-1	3.27E-2	2.89E-2	4.47E-1	3.79E-3	1.78E-2	2.11E-3	-6.79E-2	4.03E-1
ADP-mm	kg Sb eq	1.31E-3	9.00E-5	8.33E-4	2.23E-3	1.53E-5	6.05E-6	1.34E-6	-4.16E-5	2.21E-3
ADP-f	MJ	3.89E+3	5.75E+1	6.73E+1	4.01E+3	9.05E+0	6.25E+0	4.08E+0	-1.15E+3	2.89E+3
WDP	m3 depriv.	8.91E+1	1.93E-1	2.41E+0	9.17E+1	2.78E-2	2.17E-1	1.95E-2	-2.86E+0	8.91E+1
PM	disease inc.	3.62E-6	3.22E-7	4.30E-7	4.37E-6	5.32E-8	1.06E-7	2.80E-8	-3.51E-7	4.21E-6
IR	kBq U-235 eq	2.63E+0	2.42E-1	6.19E-2	2.93E+0	3.96E-2	2.03E-2	1.90E-2	-3.75E-1	2.64E+0
ETP-fw	CTUe	7.69E+2	4.98E+1	5.26E+2	1.35E+3	7.35E+0	3.38E+1	3.75E+0	-1.33E+2	1.26E+3
HTP-c	CTUh	3.67E-8	1.75E-9	2.70E-8	6.54E-8	2.62E-10	1.39E-8	9.98E-11	-8.31E-9	7.13E-8
HTP-nc	CTUh	7.61E-7	5.33E-8	6.78E-7	1.49E-6	8.76E-9	1.07E-7	2.32E-9	-9.44E-8	1.52E-6
SQP	Pt	1.02E+3	4.56E+1	9.83E+1	1.17E+3	7.75E+0	2.84E+0	1.05E+1	-7.74E+2	4.13E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.92E+2	3.85E-2	1.01E+3	1.20E+3	1.30E-1	3.40E-1	1.62E-1	-1.14E+2	1.09E+3
PERM	MJ	0	6.47E-1	0	6.47E-1	0	0	0	0	6.47E-1
PERT	MJ	1.92E+2	6.85E-1	1.01E+3	1.20E+3	1.30E-1	3.40E-1	1.62E-1	-1.14E+2	1.09E+3
PENRE	MJ	4.17E+3	6.24E+0	7.18E+1	4.25E+3	9.61E+0	6.69E+0	4.32E+0	-1.27E+3	3.00E+3
PENRM	MJ	0	5.48E+1	0	5.48E+1	0	0	0	0	5.48E+1
PENRT	MJ	4.17E+3	6.11E+1	7.18E+1	4.31E+3	9.61E+0	6.69E+0	4.32E+0	-1.27E+3	3.05E+3
PET	MJ	4.37E+3	6.18E+1	1.08E+3	5.51E+3	9.74E+0	7.03E+0	4.49E+0	-1.39E+3	4.14E+3
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	1.45E+0	6.59E-3	6.71E-2	1.53E+0	1.02E-3	2.08E-2	5.03E-3	-7.82E-2	1.48E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.11E-4	1.36E-4	1.84E-5	7.66E-4	2.32E-5	3.26E-5	4.90E-6	-1.42E-3	-5.89E-4
NHWD	kg	4.88E+0	3.29E+0	3.41E-1	8.51E+0	5.61E-1	6.73E-1	1.79E+1	-8.32E-1	2.69E+1
RWD	kg	2.38E-3	3.80E-4	2.68E-5	2.79E-3	6.16E-5	2.35E-5	2.66E-5	-5.11E-4	2.39E-3
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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