

Environmental Profile

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

Ecochain v3.5.80



Product: 4066378 - PERT/EVOH/PERT Pipe IV 16x2.0 L=120 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	1.75E+1	8.42E-1	1.59E+0	1.99E+1	1.18E-1	2.92E+1	5.18E-1	-1.39E+1	3.58E+1
GWP-f	kg CO2 eq	2.44E+1	8.42E-1	1.27E+0	2.65E+1	1.18E-1	2.17E+1	5.18E-1	-1.50E+1	3.39E+1
GWP-b	kg CO2 eq	-6.87E+0	3.21E-4	3.19E-1	-6.55E+0	7.15E-5	7.45E+0	3.92E-4	1.06E+0	1.96E+0
GWP-luluc	kg CO2 eq	1.96E-2	3.36E-4	9.80E-4	2.09E-2	4.17E-5	9.33E-5	7.55E-6	-1.12E-2	9.88E-3
ODP	kg CFC11 eq	8.55E-7	1.84E-7	7.31E-8	1.11E-6	2.71E-8	4.25E-8	1.11E-8	-1.59E-6	-3.99E-7
AP	mol H+ eq	9.40E-2	7.35E-3	9.50E-3	1.11E-1	6.71E-4	3.32E-3	2.66E-4	-2.08E-2	9.44E-2
EP-fw	kg P eq	5.13E-4	7.93E-6	5.55E-5	5.77E-4	9.69E-7	4.19E-6	3.47E-7	-1.52E-4	4.31E-4
EP-m	kg N eq	1.77E-2	2.27E-3	1.21E-3	2.12E-2	2.40E-4	1.44E-3	1.98E-4	-6.00E-3	1.71E-2
EP-T	mol N eq	1.97E-1	2.51E-2	1.33E-2	2.35E-1	2.65E-3	1.63E-2	1.08E-3	-6.79E-2	1.87E-1
POCP	kg NMVOC eq	8.66E-2	6.96E-3	4.42E-3	9.80E-2	7.56E-4	4.42E-3	4.22E-4	-2.18E-2	8.18E-2
ADP-mm	kg Sb eq	3.02E-4	1.97E-5	1.20E-4	4.41E-4	3.05E-6	3.96E-6	2.67E-7	-2.64E-5	4.22E-4
ADP-f	MJ	8.05E+2	1.25E+1	1.08E+1	8.28E+2	1.81E+0	2.60E+0	8.14E-1	-2.50E+2	5.83E+2
WDP	m3 depriv.	1.84E+1	4.21E-2	3.68E-1	1.88E+1	5.55E-3	5.33E-2	3.89E-3	-2.25E+0	1.66E+1
PM	disease inc.	9.08E-7	7.01E-8	6.69E-8	1.05E-6	1.06E-8	3.13E-8	5.59E-9	-2.56E-7	8.37E-7
IR	kBq U-235 eq	6.08E-1	5.24E-2	1.10E-2	6.72E-1	7.90E-3	1.01E-2	3.80E-3	-1.71E-1	5.23E-1
ETP-fw	CTUe	3.03E+2	1.08E+1	7.73E+1	3.91E+2	1.47E+0	8.98E+0	7.50E-1	-1.25E+2	2.78E+2
HTP-c	CTUh	1.01E-8	3.78E-10	3.97E-9	1.44E-8	5.23E-11	2.99E-9	1.99E-11	-4.03E-9	1.35E-8
HTP-nc	CTUh	1.84E-7	1.16E-8	9.92E-8	2.95E-7	1.75E-9	2.35E-8	4.64E-10	-5.43E-8	2.66E-7
SQP	Pt	6.57E+2	9.97E+0	1.45E+1	6.82E+2	1.55E+0	1.41E+0	2.09E+0	-6.87E+2	2.73E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.06E+2	7.69E-3	1.44E+2	2.51E+2	2.59E-2	1.09E-1	3.23E-2	-1.08E+2	1.43E+2
PERM	MJ	0	1.42E-1	0	1.42E-1	0	0	0	0	1.42E-1
PERT	MJ	1.06E+2	1.49E-1	1.44E+2	2.51E+2	2.59E-2	1.09E-1	3.23E-2	-1.08E+2	1.43E+2
PENRE	MJ	8.64E+2	1.25E+0	1.15E+1	8.77E+2	1.92E+0	2.77E+0	8.64E-1	-2.76E+2	6.06E+2
PENRM	MJ	0	1.20E+1	0	1.20E+1	0	0	0	0	1.20E+1
PENRT	MJ	8.64E+2	1.33E+1	1.15E+1	8.89E+2	1.92E+0	2.77E+0	8.64E-1	-2.76E+2	6.18E+2
PET	MJ	9.70E+2	1.34E+1	1.56E+2	1.14E+3	1.95E+0	2.88E+0	8.96E-1	-3.85E+2	7.61E+2
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	3.11E-1	1.44E-3	1.02E-2	3.22E-1	2.05E-4	4.72E-3	1.01E-3	-6.03E-2	2.68E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.76E-4	2.97E-5	4.67E-6	2.10E-4	4.62E-6	1.00E-5	9.78E-7	-3.23E-4	-9.67E-5
NHWD	kg	1.41E+0	7.20E-1	8.17E-2	2.21E+0	1.12E-1	1.99E-1	3.58E+0	-4.39E-1	5.66E+0
RWD	kg	5.68E-4	8.24E-5	6.83E-6	6.58E-4	1.23E-5	1.34E-5	5.32E-6	-2.01E-4	4.88E-4
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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