

Environmental Profile

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

Ecochain v3.5.80



Product: 4066383 - PERT/EVOH/PERT Pipe IV 20x2.0 L=240 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	5.15E+1	1.91E+0	6.24E+0	5.97E+1	2.94E-1	5.98E+1	1.29E+0	-3.44E+1	8.67E+1
GWP-f	kg CO2 eq	5.70E+1	1.91E+0	5.63E+0	6.45E+1	2.94E-1	5.41E+1	1.29E+0	-3.45E+1	8.58E+1
GWP-b	kg CO2 eq	-5.43E+0	7.25E-4	6.00E-1	-4.83E+0	1.78E-4	5.68E+0	9.77E-4	4.30E-2	8.92E-1
GWP-luluc	kg CO2 eq	2.71E-2	7.64E-4	5.12E-3	3.29E-2	1.04E-4	1.38E-4	1.89E-5	-4.11E-3	2.91E-2
ODP	kg CFC11 eq	1.64E-6	4.18E-7	3.21E-7	2.38E-6	6.77E-8	5.82E-8	2.78E-8	-3.61E-6	-1.08E-6
AP	mol H+ eq	2.12E-1	1.69E-2	5.02E-2	2.79E-1	1.67E-3	6.60E-3	6.65E-4	-2.93E-2	2.58E-1
EP-fw	kg P eq	1.05E-3	1.80E-5	2.85E-4	1.35E-3	2.42E-6	6.84E-6	8.69E-7	-8.06E-5	1.28E-3
EP-m	kg N eq	3.70E-2	5.22E-3	5.69E-3	4.79E-2	5.99E-4	2.96E-3	4.94E-4	-9.34E-3	4.26E-2
EP-T	mol N eq	4.16E-1	5.77E-2	6.57E-2	5.39E-1	6.60E-3	3.36E-2	2.70E-3	-1.04E-1	4.79E-1
POCP	kg NMVOC eq	1.95E-1	1.59E-2	2.21E-2	2.33E-1	1.89E-3	8.97E-3	1.05E-3	-3.45E-2	2.10E-1
ADP-mm	kg Sb eq	6.58E-4	4.45E-5	6.56E-4	1.36E-3	7.60E-6	3.21E-6	6.69E-7	-2.20E-5	1.35E-3
ADP-f	MJ	1.95E+3	2.83E+1	5.02E+1	2.03E+3	4.51E+0	3.26E+0	2.03E+0	-5.76E+2	1.46E+3
WDP	m3 depriv.	4.47E+1	9.53E-2	1.84E+0	4.66E+1	1.38E-2	1.09E-1	1.01E-2	-1.47E+0	4.53E+1
PM	disease inc.	1.83E-6	1.59E-7	3.26E-7	2.32E-6	2.65E-8	5.37E-8	1.39E-8	-1.85E-7	2.23E-6
IR	kBq U-235 eq	1.33E+0	1.19E-1	4.34E-2	1.49E+0	1.97E-2	1.06E-2	9.46E-3	-1.91E-1	1.34E+0
ETP-fw	CTUe	3.92E+2	2.46E+1	4.10E+2	8.27E+2	3.66E+0	1.71E+1	1.87E+0	-6.89E+1	7.80E+2
HTP-c	CTUh	1.90E-8	8.58E-10	2.10E-8	4.08E-8	1.30E-10	7.19E-9	5.00E-11	-4.33E-9	4.38E-8
HTP-nc	CTUh	3.85E-7	2.63E-8	5.29E-7	9.41E-7	4.37E-9	5.42E-8	1.16E-9	-4.88E-8	9.52E-7
SQP	Pt	5.53E+2	2.26E+1	7.64E+1	6.52E+2	3.86E+0	1.53E+0	5.21E+0	-4.21E+2	2.41E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.02E+2	1.81E-2	7.97E+2	8.99E+2	6.47E-2	1.75E-1	8.04E-2	-6.23E+1	8.37E+2
PERM	MJ	0	3.20E-1	0	3.20E-1	0	0	0	0	3.20E-1
PERT	MJ	1.02E+2	3.38E-1	7.97E+2	9.00E+2	6.47E-2	1.75E-1	8.04E-2	-6.23E+1	8.38E+2
PENRE	MJ	2.09E+3	2.94E+0	5.35E+1	2.15E+3	4.79E+0	3.49E+0	2.15E+0	-6.38E+2	1.52E+3
PENRM	MJ	0	2.72E+1	0	2.72E+1	0	0	0	0	2.72E+1
PENRT	MJ	2.09E+3	3.01E+1	5.35E+1	2.18E+3	4.79E+0	3.49E+0	2.15E+0	-6.38E+2	1.55E+3
PET	MJ	2.20E+3	3.04E+1	8.51E+2	3.08E+3	4.85E+0	3.66E+0	2.23E+0	-7.00E+2	2.39E+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	7.31E-1	3.25E-3	5.13E-2	7.85E-1	5.10E-4	1.05E-2	2.51E-3	-4.00E-2	7.59E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.12E-4	6.73E-5	9.27E-6	3.89E-4	1.15E-5	1.68E-5	2.44E-6	-7.11E-4	-2.91E-4
NHWD	kg	2.49E+0	1.63E+0	1.85E-1	4.30E+0	2.79E-1	3.63E-1	8.94E+0	-4.35E-1	1.34E+1
RWD	kg	1.21E-3	1.87E-4	1.35E-5	1.41E-3	3.07E-5	1.24E-5	1.33E-5	-2.60E-4	1.20E-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



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