Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	3059248 - Tigris PERT/Al/PE Pipe WT 20x2.25 L=100
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

WAVIN An Orbia business.

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

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 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]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.69E+1	9.50E-1	9.59E-1	7.88E+1	1.61E-1	2.33E+1	5.38E-1	8.06E+0	1.11E+2
GWP-f	kg CO2 eq	7.81E+1	9.49E-1	6.04E-1	7.97E+1	1.61E-1	2.14E+1	5.36E-1	7.10E+0	1.09E+2
GWP-b	kg CO2 eq	-1.41E+0	4.22E-4	3.55E-1	-1.05E+0	9.79E-5	1.82E+0	3.45E-3	8.87E-1	1.66E+0
GWP-luluc	kg CO2 eq	2.14E-1	3.55E-4	2.68E-4	2.15E-1	5.71E-5	8.63E-5	1.50E-5	7.40E-2	2.89E-1
ODP	kg CFC11 eq	3.00E-6	2.09E-7	3.53E-8	3.24E-6	3.72E-8	4.12E-8	1.64E-8	-7.09E-7	2.63E-6
AP	mol H+ eq	4.55E-1	6.07E-3	2.46E-3	4.63E-1	9.18E-4	3.19E-3	4.14E-4	1.23E-1	5.91E-1
EP-fw	kg P eq	2.38E-3	9.45E-6	1.64E-5	2.41E-3	1.33E-6	4.18E-6	6.94E-7	5.80E-4	2.99E-3
EP-m	kg N eq	7.01E-2	2.07E-3	4.84E-4	7.26E-2	3.29E-4	1.38E-3	2.51E-4	1.61E-2	9.07E-2
EP-T	mol N eq	7.80E-1	2.28E-2	4.50E-3	8.08E-1	3.62E-3	1.55E-2	1.68E-3	1.79E-1	1.01E+0
POCP	kg NMVOC eq	2.58E-1	6.46E-3	1.45E-3	2.66E-1	1.04E-3	4.24E-3	5.90E-4	5.19E-2	3.24E-1
ADP-mm	kg Sb eq	4.80E-4	2.37E-5	2.54E-5	5.29E-4	4.17E-6	3.66E-6	4.13E-7	-4.79E-3	-4.25E-3
ADP-f	MJ	1.31E+3	1.43E+1	4.46E+0	1.33E+3	2.47E+0	2.55E+0	1.25E+0	-3.52E+1	1.30E+3
WDP	m3 depriv.	2.69E+1	5.05E-2	1.21E-1	2.71E+1	7.59E-3	1.56E-2	6.45E-3	-2.04E-1	2.69E+1
PM	disease inc.	4.93E-6	8.40E-8	2.42E-8	5.03E-6	1.46E-8	3.43E-8	8.14E-9	1.51E-6	6.60E-6
IR	kBq U-235 eq	1.44E+0	5.98E-2	6.50E-3	1.51E+0	1.08E-2	9.40E-3	6.73E-3	1.38E-1	1.67E+0
ETP-fw	CTUe	1.75E+3	1.27E+1	1.95E+1	1.78E+3	2.01E+0	9.83E+0	8.21E+2	4.05E+2	3.02E+3
HTP-c	CTUh	8.45E-8	4.17E-10	1.03E-9	8.59E-8	7.15E-11	3.10E-9	5.66E-11	2.75E-8	1.17E-7
HTP-nc	CTUh	1.58E-6	1.38E-8	2.43E-8	1.62E-6	2.40E-9	2.38E-8	1.19E-9	4.60E-7	2.11E-6
SQP	Pt	2.90E+2	1.22E+1	3.84E+0	3.06E+2	2.12E+0	1.68E+0	2.92E+0	-2.51E+2	6.23E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.05E+2	1.82E-3	2.87E+1	1.34E+2	3.55E-2	1.02E-1	9.35E-2	-2.15E+1	1.13E+2
PERM	MJ	0	1.75E-1	0	1.75E-1	0	0	0	0	1.75E-1
PERT	MJ	1.05E+2	1.77E-1	2.87E+1	1.34E+2	3.55E-2	1.02E-1	9.35E-2	-2.15E+1	1.13E+2
PENRE	MJ	1.40E+3	2.87E-1	4.80E+0	1.40E+3	2.63E+0	2.72E+0	1.33E+0	-4.79E+1	1.36E+3
PENRM	MJ	0	1.49E+1	0	1.49E+1	0	0	0	0	1.49E+1
PENRT	MJ	1.40E+3	1.51E+1	4.80E+0	1.42E+3	2.63E+0	2.72E+0	1.33E+0	-4.79E+1	1.38E+3
PET	MJ	1.51E+3	1.53E+1	3.35E+1	1.55E+3	2.66E+0	2.82E+0	1.42E+0	-6.94E+1	1.49E+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	6.86E-1	1.72E-3	3.35E-3	6.91E-1	2.80E-4	3.67E-3	1.58E-3	6.80E-2	7.65E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.43E-2	3.57E-5	5.07E-6	2.43E-2	6.33E-6	9.94E-6	1.49E-6	-9.93E-3	1.44E-2
NHWD	kg	1.16E+1	8.88E-1	8.31E-2	1.26E+1	1.53E-1	1.88E-1	4.92E+0	3.80E+0	2.17E+1
RWD	kg	1.47E-3	9.38E-5	7.41E-6	1.57E-3	1.68E-5	1.26E-5	8.38E-6	1.57E-4	1.76E-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