

# Environmental Profile

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

Ecochain v3.5.80



Product: 3059252 - Tigris PERT/Al/PE Pipe WT 20x2.25 L=5  
 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	☑	☑	☑	☑									

## 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]

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.77E+0	5.31E-2	7.22E-2	3.89E+0	1.08E-2	1.86E+0	3.71E-2	3.60E-1	6.16E+0
GWP-f	kg CO2 eq	4.13E+0	5.30E-2	4.86E-2	4.23E+0	1.08E-2	1.49E+0	3.69E-2	3.60E-1	6.13E+0
GWP-b	kg CO2 eq	-3.74E-1	2.37E-5	2.36E-2	-3.51E-1	6.53E-6	3.71E-1	1.81E-4	-4.18E-3	1.67E-2
GWP-luluc	kg CO2 eq	1.09E-2	1.98E-5	2.63E-5	1.10E-2	3.81E-6	4.64E-6	9.21E-7	4.07E-3	1.50E-2
ODP	kg CFC11 eq	1.61E-7	1.17E-8	2.82E-9	1.76E-7	2.48E-9	2.13E-9	1.08E-9	-5.40E-8	1.28E-7
AP	mol H+ eq	2.40E-2	3.36E-4	2.47E-4	2.46E-2	6.13E-5	2.24E-4	2.68E-5	6.87E-3	3.17E-2
EP-fw	kg P eq	1.30E-4	5.29E-7	1.56E-6	1.32E-4	8.85E-8	2.37E-7	4.25E-8	3.59E-5	1.68E-4
EP-m	kg N eq	3.70E-3	1.15E-4	4.11E-5	3.86E-3	2.19E-5	9.97E-5	1.65E-5	8.97E-4	4.90E-3
EP-T	mol N eq	4.16E-2	1.27E-3	4.05E-4	4.33E-2	2.42E-4	1.13E-3	1.08E-4	9.73E-3	5.45E-2
POCP	kg NMVOC eq	1.37E-2	3.59E-4	1.32E-4	1.42E-2	6.90E-5	3.04E-4	3.88E-5	3.14E-3	1.77E-2
ADP-mm	kg Sb eq	2.81E-5	1.32E-6	2.80E-6	3.22E-5	2.78E-7	1.36E-7	2.67E-8	-2.37E-4	-2.05E-4
ADP-f	MJ	6.99E+1	7.98E-1	3.74E-1	7.11E+1	1.65E-1	1.33E-1	8.12E-2	2.64E+0	7.41E+1
WDP	m3 depriv.	1.50E+0	2.82E-3	1.10E-2	1.52E+0	5.07E-4	1.56E-3	4.08E-4	2.07E-1	1.73E+0
PM	disease inc.	2.71E-7	4.70E-9	2.13E-9	2.78E-7	9.71E-10	2.13E-9	5.35E-10	8.45E-8	3.66E-7
IR	kBq U-235 eq	8.76E-2	3.34E-3	4.92E-4	9.15E-2	7.22E-4	4.53E-4	4.23E-4	1.28E-2	1.06E-1
ETP-fw	CTUe	8.72E+1	7.08E-1	1.99E+0	8.99E+1	1.34E-1	5.45E-1	4.11E+1	2.34E+1	1.55E+2
HTP-c	CTUh	4.43E-9	2.33E-11	1.03E-10	4.56E-9	4.77E-12	2.31E-10	3.28E-12	1.43E-9	6.23E-9
HTP-nc	CTUh	8.23E-8	7.72E-10	2.51E-9	8.56E-8	1.60E-10	1.62E-9	6.95E-11	2.48E-8	1.12E-7
SQP	Pt	4.26E+1	6.82E-1	3.83E-1	4.36E+1	1.41E-1	9.01E-2	1.94E-1	-5.89E+0	3.82E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.61E+0	9.10E-5	3.27E+0	1.29E+1	2.37E-3	5.81E-3	5.40E-3	-8.93E-2	1.28E+1
PERM	MJ	0	9.82E-3	0	9.82E-3	0	0	0	0	9.82E-3
PERT	MJ	9.61E+0	9.91E-3	3.27E+0	1.29E+1	2.37E-3	5.81E-3	5.40E-3	-8.93E-2	1.28E+1
PENRE	MJ	7.47E+1	1.43E-2	4.02E-1	7.51E+1	1.75E-1	1.42E-1	8.61E-2	2.18E+0	7.77E+1
PENRM	MJ	0	8.32E-1	0	8.32E-1	0	0	0	0	8.32E-1
PENRT	MJ	7.47E+1	8.47E-1	4.02E-1	7.60E+1	1.75E-1	1.42E-1	8.61E-2	2.18E+0	7.86E+1
PET	MJ	8.43E+1	8.57E-1	3.67E+0	8.89E+1	1.78E-1	1.48E-1	9.15E-2	2.09E+0	9.14E+1
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	3.85E-2	9.62E-5	3.06E-4	3.89E-2	1.87E-5	2.99E-4	1.02E-4	7.32E-3	4.66E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.22E-3	2.00E-6	3.38E-7	1.22E-3	4.22E-7	5.66E-7	9.68E-8	-5.00E-4	7.19E-4
NHWD	kg	6.10E-1	4.98E-2	5.61E-3	6.65E-1	1.02E-2	1.70E-2	3.28E-1	1.98E-1	1.22E+0
RWD	kg	8.66E-5	5.24E-6	4.95E-7	9.23E-5	1.12E-6	5.82E-7	5.40E-7	1.26E-5	1.07E-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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