Environmental Profile

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

Ecochain v3.5.80

Product:	3079926 - Tigris PEXc/Al/PE P.Ins6BL 20x2.25 L=50
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

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	4.35E+1	8.51E-1	7.64E-1	4.51E+1	1.02E-1	1.94E+1	3.64E-1	1.48E+0	6.65E+1
GWP-f	kg CO2 eq	4.70E+1	8.50E-1	4.89E-1	4.83E+1	1.02E-1	1.50E+1	3.63E-1	-1.19E-1	6.37E+1
GWP-b	kg CO2 eq	-3.63E+0	3.84E-4	2.75E-1	-3.35E+0	6.19E-5	4.41E+0	1.79E-3	1.58E+0	2.64E+0
GWP-luluc	kg CO2 eq	1.19E-1	3.15E-4	2.29E-4	1.19E-1	3.61E-5	8.96E-5	8.87E-6	2.75E-2	1.47E-1
ODP	kg CFC11 eq	2.03E-6	1.87E-7	2.86E-8	2.25E-6	2.35E-8	4.32E-8	1.02E-8	-7.59E-7	1.57E-6
AP	mol H+ eq	2.61E-1	5.22E-3	2.12E-3	2.68E-1	5.81E-4	2.75E-3	2.55E-4	5.15E-2	3.23E-1
EP-fw	kg P eq	1.57E-3	8.52E-6	1.39E-5	1.59E-3	8.39E-7	3.99E-6	4.10E-7	1.68E-4	1.77E-3
EP-m	kg N eq	4.29E-2	1.80E-3	3.98E-4	4.51E-2	2.08E-4	1.16E-3	1.60E-4	5.46E-3	5.21E-2
EP-T	mol N eq	4.77E-1	1.99E-2	3.76E-3	5.01E-1	2.29E-3	1.30E-2	1.03E-3	5.93E-2	5.76E-1
POCP	kg NMVOC eq	1.60E-1	5.65E-3	1.22E-3	1.67E-1	6.55E-4	3.60E-3	3.72E-4	1.70E-2	1.89E-1
ADP-mm	kg Sb eq	3.56E-4	2.14E-5	2.25E-5	4.00E-4	2.64E-6	4.73E-6	2.55E-7	-2.40E-3	-1.99E-3
ADP-f	MJ	8.57E+2	1.28E+1	3.66E+0	8.73E+2	1.57E+0	2.77E+0	7.73E-1	-7.90E+1	7.99E+2
WDP	m3 depriv.	1.86E+1	4.55E-2	1.02E-1	1.87E+1	4.80E-3	2.50E-2	3.96E-3	-1.93E+0	1.68E+1
PM	disease inc.	2.83E-6	7.57E-8	2.01E-8	2.93E-6	9.20E-9	3.09E-8	5.08E-9	5.86E-7	3.56E-6
IR	kBq U-235 eq	1.04E+0	5.37E-2	5.19E-3	1.10E+0	6.84E-3	1.11E-2	4.05E-3	-3.25E-2	1.09E+0
ETP-fw	CTUe	1.08E+3	1.14E+1	1.69E+1	1.11E+3	1.27E+0	8.21E+0	4.09E+2	1.01E+2	1.63E+3
HTP-c	CTUh	4.58E-8	3.72E-10	8.86E-10	4.71E-8	4.52E-11	2.30E-9	3.19E-11	1.18E-8	6.12E-8
HTP-nc	CTUh	8.69E-7	1.24E-8	2.11E-8	9.02E-7	1.52E-9	1.81E-8	6.77E-10	1.95E-7	1.12E-6
SQP	Pt	4.67E+2	1.10E+1	3.30E+0	4.81E+2	1.34E+0	1.72E+0	1.84E+0	-5.41E+2	-5.44E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.05E+2	9.14E-4	2.57E+1	1.31E+2	2.25E-2	1.01E-1	5.25E-2	-7.94E+1	5.14E+1
PERM	MJ	0	1.59E-1	0	1.59E-1	0	0	0	0	1.59E-1
PERT	MJ	1.05E+2	1.59E-1	2.57E+1	1.31E+2	2.25E-2	1.01E-1	5.25E-2	-7.94E+1	5.15E+1
PENRE	MJ	9.16E+2	1.44E-1	3.93E+0	9.20E+2	1.66E+0	2.95E+0	8.20E-1	-9.12E+1	8.35E+2
PENRM	MJ	0	1.34E+1	0	1.34E+1	0	0	0	0	1.34E+1
PENRT	MJ	9.16E+2	1.36E+1	3.93E+0	9.34E+2	1.66E+0	2.95E+0	8.20E-1	-9.12E+1	8.48E+2
PET	MJ	1.02E+3	1.38E+1	2.97E+1	1.06E+3	1.68E+0	3.05E+0	8.72E-1	-1.71E+2	9.00E+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	4.40E-1	1.55E-3	2.81E-3	4.44E-1	1.77E-4	3.13E-3	9.71E-4	-1.45E-2	4.34E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.22E-2	3.22E-5	3.93E-6	1.22E-2	4.00E-6	9.54E-6	9.22E-7	-5.03E-3	7.20E-3
NHWD	kg	7.16E+0	8.04E-1	6.46E-2	8.03E+0	9.70E-2	1.87E-1	3.11E+0	1.67E+0	1.31E+1
RWD	kg	1.08E-3	8.41E-5	5.75E-6	1.17E-3	1.06E-5	1.53E-5	5.15E-6	-2.81E-5	1.18E-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