

Environmental Profile

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

Ecochain v3.5.64



Product: 3084334 - AquaCell (NG) Infiltration Unit
 Unit: 1 Piece
 Manufacturer: Wavin Poland Buk
 Address: Dobieżyńska 43
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 Poland
 Contact: <https://www.wavin.com/en-en>

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 19-09-2022
 End of validity: 19-09-2027
 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 AquaCell is a below ground (rain)water storage system made with recycled material which can be used in two different applications: Infiltration system or Attenuation system. Wavin's AquaCell rainwater units are made from 100% recycled and 100% recyclable plastic (PP).

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin Poland Buk (2020). (☑ = 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	☑	☑	☑	☑	☑

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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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	A4	A5	C1	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.45E+0	2.86E-1	8.27E-1	4.57E+0	1.78E+0	1.71E+0	1.71E+0	3.02E-1	1.10E+1	1.42E-1	-6.38E-1	2.06E+1
GWP-f	kg CO2 eq	4.87E+0	2.86E-1	7.81E-1	5.93E+0	1.77E+0	1.71E+0	1.71E+0	3.01E-1	8.88E+0	1.42E-1	-6.65E-1	1.98E+1
GWP-b	kg CO2 eq	-1.42E+0	1.32E-4	4.58E-2	-1.38E+0	9.60E-4	6.56E-4	6.56E-4	1.83E-4	2.17E+0	1.23E-4	2.84E-2	8.26E-1
GWP-luluc	kg CO2 eq	8.14E-3	1.05E-4	2.54E-4	8.50E-3	6.66E-4	1.78E-4	1.78E-4	1.07E-4	1.70E-3	2.55E-6	1.70E-4	1.15E-2
ODP	kg CFC11 eq	4.49E-7	6.31E-8	1.01E-7	6.13E-7	4.05E-7	3.58E-7	3.58E-7	6.95E-8	2.22E-7	3.57E-9	-1.17E-6	8.61E-7
AP	mol H+ eq	2.98E-2	1.66E-3	2.88E-3	3.43E-2	1.40E-2	1.74E-2	1.74E-2	1.72E-3	9.34E-3	8.58E-5	1.72E-2	1.12E-1
EP-fw	kg P eq	3.33E-4	2.88E-6	1.38E-5	3.50E-4	1.40E-5	9.45E-6	9.45E-6	2.48E-6	4.90E-5	1.15E-7	6.35E-5	4.98E-4
EP-m	kg N eq	4.67E-3	5.84E-4	4.50E-4	5.71E-3	4.49E-3	7.63E-3	7.63E-3	6.15E-4	2.73E-3	5.44E-5	1.78E-3	3.06E-2
EP-T	mol N eq	5.58E-2	6.44E-3	4.91E-3	6.72E-2	4.96E-2	8.37E-2	8.37E-2	6.77E-3	3.00E-2	3.47E-4	1.94E-2	3.41E-1
POCP	kg NMVOC eq	1.45E-2	1.84E-3	1.65E-3	1.80E-2	1.38E-2	2.31E-2	2.31E-2	1.94E-3	9.47E-3	1.30E-4	1.39E-2	1.03E-1
ADP-mm	kg Sb eq	3.09E-4	7.24E-6	2.66E-5	3.42E-4	4.32E-5	2.96E-6	2.96E-6	7.80E-6	3.68E-5	8.76E-8	4.76E-5	4.84E-4
ADP-f	MJ	7.89E+1	4.31E+0	9.93E+0	9.32E+1	2.69E+1	2.34E+1	2.34E+1	4.63E+0	2.95E+1	2.61E-1	1.41E+2	3.42E+2
WDP	m3 depriv.	1.84E+0	1.54E-2	8.81E-2	1.95E+0	7.93E-2	4.10E-2	4.10E-2	1.42E-2	5.76E-1	1.79E-3	4.31E+0	7.01E+0
PM	disease inc.	3.11E-7	2.57E-8	2.17E-8	3.58E-7	1.52E-7	4.59E-7	4.59E-7	2.72E-8	1.53E-7	1.80E-9	1.64E-7	1.77E-6
IR	kBq U-235 eq	4.79E-1	1.81E-2	1.59E-2	5.13E-1	1.17E-1	9.92E-2	9.92E-2	2.02E-2	8.91E-2	1.20E-3	5.54E-2	9.95E-1
ETP-fw	CTUe	1.42E+2	3.84E+0	1.91E+1	1.65E+2	2.15E+1	1.55E+1	1.55E+1	3.76E+0	3.33E+1	2.19E-1	9.37E+0	2.64E+2
HTP-c	CTUh	4.34E-9	1.25E-10	9.49E-10	5.42E-9	7.99E-10	8.04E-10	8.04E-10	1.34E-10	4.32E-9	6.73E-12	-1.18E-10	1.22E-8
HTP-nc	CTUh	8.64E-8	4.21E-9	2.26E-8	1.13E-7	2.52E-8	1.51E-8	1.51E-8	4.48E-9	5.05E-8	1.43E-10	2.03E-8	2.44E-7
SQP	Pt	2.16E+2	3.74E+0	3.74E+0	2.24E+2	2.17E+1	3.09E+0	3.09E+0	3.96E+0	2.36E+1	6.68E-1	-1.53E+2	1.27E+2
Resource use	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
PERE	MJ	3.72E+1	5.40E-2	3.13E+1	6.86E+1	3.71E-1	1.87E-1	1.87E-1	6.64E-2	1.45E+0	9.85E-3	-2.11E+1	4.98E+1
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	3.72E+1	5.40E-2	3.13E+1	6.86E+1	3.71E-1	1.87E-1	1.87E-1	6.64E-2	1.45E+0	9.85E-3	-2.11E+1	4.98E+1
PENRE	MJ	8.36E+1	4.58E+0	1.08E+1	9.90E+1	2.85E+1	2.48E+1	2.48E+1	4.91E+0	3.14E+1	2.77E-1	1.47E+2	3.61E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.36E+1	4.58E+0	1.08E+1	9.90E+1	2.85E+1	2.48E+1	2.48E+1	4.91E+0	3.14E+1	2.77E-1	1.47E+2	3.61E+2
PET	MJ	1.21E+2	4.63E+0	4.21E+1	1.68E+2	2.89E+1	2.50E+1	2.50E+1	4.98E+0	3.29E+1	2.87E-1	1.26E+2	4.10E+2
SM	kg	0	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
FW	m3	7.32E-2	5.25E-4	2.52E-3	7.63E-2	2.92E-3	1.44E-3	1.44E-3	5.24E-4	1.70E-2	3.20E-4	6.50E-2	1.65E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
HWD	kg	1.11E-4	1.09E-5	1.24E-5	1.34E-4	6.57E-5	6.45E-5	6.45E-5	1.18E-5	4.83E-5	3.19E-7	-1.56E-4	2.34E-4
NHWD	kg	9.75E-1	2.74E-1	3.21E-2	1.28E+0	1.56E+0	4.26E-2	4.26E-2	2.87E-1	1.46E+0	1.15E+0	5.41E-2	5.87E+0
RWD	kg	4.10E-4	2.83E-5	2.29E-5	4.61E-4	1.83E-4	1.59E-4	1.59E-4	3.15E-5	1.13E-4	1.70E-6	1.89E-5	1.13E-3
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0	0	0	0



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