Environmental Profile

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

Ecochain v4.3.1

Product:	3046921 - PVC S&W Pipe w/R.R.GY 160 L=2 T1
Unit:	1 piece
Manufacturer:	Wavin - TR - Adana
Location:	Güzelevler Mahallesi
Address:	Girne Bulvarı 294 01321 Adana Turkey

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	04-10-2022
End of validity:	04-10-2027
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 LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - TR - Adana (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	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-f** = EF Resource use, fossils [MJ]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **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	8.34E+0	5.95E-1	1.75E-1	9.10E+0	3.63E-1	7.53E+0	7.30E-2	-4.54E+0	1.25E+1
GWP-f	kg CO2 eq	8.25E+0	5.95E-1	1.60E-1	9.01E+0	3.63E-1	7.54E+0	7.29E-2	-4.51E+0	1.25E+1
GWP-b	kg CO2 eq	7.68E-2	-6.37E-5	1.50E-2	9.18E-2	2.20E-4	-9.28E-3	1.44E-4	-3.16E-2	5.12E-2
GWP-luluc	kg CO2 eq	7.32E-3	3.60E-4	8.42E-5	7.77E-3	1.28E-4	3.44E-3	2.98E-6	-2.93E-3	8.41E-3
ODP	kg CFC11 eq	4.41E-6	1.22E-7	1.82E-8	4.55E-6	8.36E-8	8.22E-7	4.31E-9	-2.24E-6	3.22E-6
AP	mol H+ eq	4.20E-2	1.52E-2	1.10E-3	5.82E-2	2.07E-3	1.64E-2	1.04E-4	-1.72E-2	5.96E-2
EP-fw	kg P eq	3.90E-4	3.29E-6	2.14E-5	4.14E-4	2.98E-6	1.11E-4	1.35E-7	-1.67E-4	3.62E-4
EP-m	kg N eq	6.81E-3	3.82E-3	6.91E-4	1.13E-2	7.39E-4	4.10E-3	5.41E-5	-2.98E-3	1.32E-2
EP-T	mol N eq	7.54E-2	4.25E-2	3.61E-3	1.21E-1	8.15E-3	4.52E-2	4.17E-4	-3.18E-2	1.43E-1
POCP	kg NMVOC eq	2.48E-2	1.11E-2	1.10E-3	3.69E-2	2.33E-3	1.38E-2	1.34E-4	-1.10E-2	4.23E-2
ADP-f	MJ	2.07E+2	7.95E+0	1.77E+0	2.17E+2	5.57E+0	4.76E+1	3.14E-1	-1.10E+2	1.61E+2
ADP-mm	kg Sb eq	8.19E-3	7.18E-6	7.12E-6	8.20E-3	9.38E-6	6.58E-5	1.05E-7	-9.29E-5	8.18E-3
WDP	m3 depriv.	1.37E+1	1.64E-2	8.14E-1	1.45E+1	1.71E-2	1.58E+0	1.96E-3	-6.48E+0	9.62E+0
PM	disease inc.	2.66E-7	2.73E-8	2.09E-8	3.14E-7	3.27E-8	2.25E-7	2.16E-9	-1.09E-7	4.64E-7
IR	kBq U-235 eq	4.76E-1	3.38E-2	6.03E-3	5.16E-1	2.43E-2	1.60E-1	1.44E-3	-2.11E-1	4.90E-1
ETP-fw	CTUe	2.16E+2	5.69E+0	1.14E+1	2.33E+2	4.52E+0	2.71E+2	2.90E+0	-6.53E+1	4.46E+2
HTP-c	CTUh	7.36E-9	3.17E-10	3.92E-10	8.06E-9	1.61E-10	5.31E-9	8.20E-12	-2.37E-9	1.12E-8
HTP-nc	CTUh	2.28E-7	5.16E-9	8.36E-9	2.41E-7	5.39E-9	1.11E-7	5.98E-10	-8.19E-8	2.76E-7
SQP	Pt	3.11E+1	2.72E+0	1.55E+0	3.54E+1	4.76E+0	3.23E+1	8.06E-1	-1.17E+1	6.16E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.07E+1	6.48E-2	1.44E+1	2.52E+1	7.99E-2	3.10E+0	1.15E-2	-4.75E+0	2.36E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.07E+1	6.48E-2	1.44E+1	2.52E+1	7.99E-2	3.10E+0	1.15E-2	-4.75E+0	2.36E+1
PENRE	MJ	2.22E+2	8.44E+0	1.88E+0	2.32E+2	5.91E+0	5.07E+1	3.33E-1	-1.18E+2	1.71E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.22E+2	8.44E+0	1.88E+0	2.32E+2	5.91E+0	5.07E+1	3.33E-1	-1.18E+2	1.71E+2
PET	MJ	2.33E+2	8.51E+0	1.63E+1	2.57E+2	5.99E+0	5.38E+1	3.45E-1	-1.23E+2	1.95E+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	1.57E-1	5.68E-4	1.91E-2	1.76E-1	6.30E-4	4.37E-2	3.85E-4	-6.87E-2	1.52E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.17E-3	1.11E-5	9.33E-6	1.19E-3	1.42E-5	7.67E-5	3.82E-7	-9.03E-5	1.19E-3
NHWD	kg	9.86E-1	1.56E-1	1.28E-1	1.27E+0	3.45E-1	1.91E+0	1.38E+0	-3.44E-1	4.56E+0
RWD	kg	4.18E-4	5.44E-5	8.24E-6	4.80E-4	3.79E-5	1.80E-4	2.04E-6	-1.86E-4	5.14E-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	3.44E+0	3.44E+0	0	0	0	0	3.44E+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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