Environmental Profile

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

Ecochain v3.5.71

Product:	3071145 - WavSpec SN4 PVC-U Pipe EN13476 F 110 L=6
Unit:	1 piece
Manufacturer:	Wavin - IE - Balbriggan - Verified

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	27-01-2023
End of validity:	27-01-2028
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 - IE - Balbriggan - Verified (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-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	1.36E+1	2.73E-1	1.28E+0	1.51E+1	2.08E-1	5.61E+0	5.65E-2	-7.55E+0	1.35E+1
GWP-f	kg CO2 eq	1.39E+1	2.73E-1	4.31E-1	1.46E+1	2.08E-1	5.20E+0	5.65E-2	-7.49E+0	1.26E+1
GWP-b	kg CO2 eq	-3.05E-1	8.39E-5	8.46E-1	5.41E-1	1.26E-4	4.09E-1	7.27E-5	-5.27E-2	8.98E-1
GWP-luluc	kg CO2 eq	1.05E-2	1.26E-4	1.47E-4	1.07E-2	7.36E-5	2.39E-3	1.54E-6	-4.94E-3	8.26E-3
ODP	kg CFC11 eq	7.50E-6	6.01E-8	4.87E-8	7.61E-6	4.79E-8	6.33E-7	2.34E-9	-3.77E-6	4.53E-6
AP	mol H+ eq	6.34E-2	4.01E-3	3.42E-3	7.08E-2	1.19E-3	1.11E-2	5.57E-5	-2.87E-2	5.44E-2
EP-fw	kg P eq	6.05E-4	1.86E-6	8.11E-6	6.15E-4	1.71E-6	7.91E-5	6.92E-8	-2.78E-4	4.17E-4
EP-m	kg N eq	1.07E-2	1.10E-3	4.94E-4	1.23E-2	4.24E-4	2.71E-3	3.45E-5	-4.99E-3	1.05E-2
EP-T	mol N eq	1.14E-1	1.22E-2	9.81E-3	1.36E-1	4.67E-3	2.99E-2	2.23E-4	-5.33E-2	1.18E-1
POCP	kg NMVOC eq	4.01E-2	3.28E-3	1.42E-3	4.48E-2	1.34E-3	8.99E-3	7.55E-5	-1.84E-2	3.68E-2
ADP-mm	kg Sb eq	4.03E-4	5.35E-6	1.39E-5	4.22E-4	5.38E-6	4.40E-5	5.50E-8	-1.54E-4	3.17E-4
ADP-f	MJ	3.52E+2	3.95E+0	5.53E+0	3.62E+2	3.19E+0	3.08E+1	1.69E-1	-1.83E+2	2.13E+2
WDP	m3 depriv.	2.26E+1	1.02E-2	2.04E-1	2.28E+1	9.80E-3	1.18E+0	9.14E-4	-1.09E+1	1.31E+1
PM	disease inc.	4.43E-7	1.91E-8	2.76E-8	4.90E-7	1.88E-8	1.41E-7	1.16E-9	-1.84E-7	4.67E-7
IR	kBq U-235 eq	7.25E-1	1.72E-2	5.50E-3	7.48E-1	1.40E-2	1.07E-1	7.75E-4	-3.51E-1	5.18E-1
ETP-fw	CTUe	2.26E+2	3.01E+0	1.15E+1	2.41E+2	2.59E+0	2.23E+2	2.44E+0	-1.07E+2	3.62E+2
HTP-c	CTUh	9.14E-9	1.31E-10	5.05E-10	9.77E-9	9.23E-11	3.34E-9	4.31E-12	-3.99E-9	9.22E-9
HTP-nc	CTUh	2.91E-7	3.29E-9	1.36E-8	3.08E-7	3.09E-9	7.97E-8	4.71E-10	-1.38E-7	2.54E-7
SQP	Pt	8.09E+1	2.54E+0	1.99E+0	8.54E+1	2.73E+0	1.95E+1	4.27E-1	-2.74E+1	8.07E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.21E+1	4.76E-2	1.41E+1	3.63E+1	4.58E-2	2.18E+0	6.02E-3	-9.52E+0	2.90E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.21E+1	4.76E-2	1.41E+1	3.63E+1	4.58E-2	2.18E+0	6.02E-3	-9.52E+0	2.90E+1
PENRE	MJ	3.78E+2	4.19E+0	6.05E+0	3.88E+2	3.39E+0	3.28E+1	1.79E-1	-1.97E+2	2.28E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.78E+2	4.19E+0	6.05E+0	3.88E+2	3.39E+0	3.28E+1	1.79E-1	-1.97E+2	2.28E+2
PET	MJ	4.00E+2	4.24E+0	2.02E+1	4.25E+2	3.44E+0	3.50E+1	1.85E-1	-2.06E+2	2.57E+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	2.42E-1	3.74E-4	5.03E-3	2.47E-1	3.61E-4	3.22E-2	2.07E-4	-1.14E-1	1.66E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.76E-4	8.17E-6	4.47E-3	4.75E-3	8.17E-6	4.96E-5	2.03E-7	-1.51E-4	4.66E-3
NHWD	kg	1.33E+0	1.75E-1	5.47E-2	1.56E+0	1.98E-1	1.15E+0	7.91E-1	-5.80E-1	3.12E+0
RWD	kg	6.37E-4	2.70E-5	7.09E-6	6.71E-4	2.17E-5	1.16E-4	1.11E-6	-3.10E-4	5.00E-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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