Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	4005641 - PVC Bend 67°3 GY 200 S/SP
Unit:	1 Piece
Manufacturer:	Wavin - FR - Varennes

The Wavin range of PVC pipes and fittings to be glued covers all the usual diameters and allows you to create networks that are 100% compatible, homogeneous and meet the requirements of the French market.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

WAVIN An Orbia business.

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 - FR - Varennes (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	1.53E+0	6.69E-2	8.01E-2	1.68E+0	2.45E-2	1.34E+0	7.58E-3	-9.85E-1	2.07E+0
GWP-f	kg CO2 eq	2.08E+0	6.68E-2	6.33E-2	2.21E+0	2.45E-2	6.79E-1	7.58E-3	-1.19E+0	1.73E+0
GWP-b	kg CO2 eq	-5.51E-1	4.06E-5	1.67E-2	-5.34E-1	1.49E-5	6.65E-1	9.53E-6	2.07E-1	3.38E-1
GWP-luluc	kg CO2 eq	3.17E-3	2.36E-5	5.76E-5	3.25E-3	8.66E-6	3.07E-4	2.03E-7	-2.42E-3	1.14E-3
ODP	kg CFC11 eq	1.04E-6	1.54E-8	8.23E-9	1.06E-6	5.64E-9	8.52E-8	2.87E-10	-5.34E-7	6.17E-7
AP	mol H+ eq	1.03E-2	3.81E-4	3.47E-4	1.10E-2	1.39E-4	1.50E-3	6.97E-6	-5.34E-3	7.35E-3
EP-fw	kg P eq	1.04E-4	5.50E-7	1.51E-6	1.06E-4	2.01E-7	1.03E-5	9.13E-9	-5.95E-5	5.74E-5
EP-m	kg N eq	2.00E-3	1.36E-4	1.02E-4	2.24E-3	4.99E-5	3.79E-4	4.26E-6	-1.03E-3	1.65E-3
EP-T	mol N eq	2.16E-2	1.50E-3	1.22E-3	2.43E-2	5.50E-4	4.18E-3	2.78E-5	-1.13E-2	1.77E-2
POCP	kg NMVOC eq	6.73E-3	4.29E-4	3.03E-4	7.46E-3	1.57E-4	1.25E-3	9.54E-6	-3.68E-3	5.19E-3
ADP-mm	kg Sb eq	2.41E-3	1.73E-6	1.17E-6	2.41E-3	6.33E-7	5.95E-6	7.00E-9	-2.35E-5	2.40E-3
ADP-f	MJ	4.96E+1	1.03E+0	8.85E-1	5.15E+1	3.76E-1	4.02E+0	2.09E-2	-2.76E+1	2.83E+1
WDP	m3 depriv.	3.14E+0	3.15E-3	1.80E+0	4.95E+0	1.15E-3	1.52E-1	1.45E-4	-1.79E+0	3.31E+0
PM	disease inc.	8.29E-8	6.03E-9	5.09E-9	9.40E-8	2.21E-9	1.89E-8	1.44E-10	-5.46E-8	6.07E-8
IR	kBq U-235 eq	1.18E-1	4.48E-3	2.56E-3	1.25E-1	1.64E-3	1.43E-2	9.60E-5	-6.40E-2	7.71E-2
ETP-fw	CTUe	7.97E+1	8.33E-1	8.11E-1	8.14E+1	3.05E-1	2.97E+1	3.24E-1	-3.25E+1	7.92E+1
HTP-c	CTUh	1.99E-9	2.96E-11	6.37E-11	2.09E-9	1.09E-11	4.61E-10	5.79E-13	-8.65E-10	1.69E-9
HTP-nc	CTUh	5.84E-8	9.93E-10	1.63E-9	6.10E-8	3.64E-10	1.06E-8	6.23E-11	-2.45E-8	4.75E-8
SQP	Pt	6.28E+1	8.77E-1	3.85E+0	6.75E+1	3.21E-1	2.47E+0	5.35E-2	-8.11E+1	-1.08E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.11E+1	1.47E-2	9.82E-1	1.21E+1	5.39E-3	2.82E-1	7.67E-4	-1.40E+1	-1.69E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.11E+1	1.47E-2	9.82E-1	1.21E+1	5.39E-3	2.82E-1	7.67E-4	-1.40E+1	-1.69E+0
PENRE	MJ	5.32E+1	1.09E+0	9.57E-1	5.53E+1	3.99E-1	4.27E+0	2.22E-2	-2.97E+1	3.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.32E+1	1.09E+0	9.57E-1	5.53E+1	3.99E-1	4.27E+0	2.22E-2	-2.97E+1	3.02E+1
PET	MJ	6.43E+1	1.10E+0	1.94E+0	6.73E+1	4.04E-1	4.55E+0	2.30E-2	-4.38E+1	2.85E+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	3.73E-2	1.16E-4	4.22E-2	7.97E-2	4.25E-5	4.20E-3	2.56E-5	-2.39E-2	6.00E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.43E-4	2.62E-6	1.32E-6	3.47E-4	9.61E-7	6.72E-6	2.56E-8	-2.60E-5	3.29E-4
NHWD	kg	2.52E-1	6.36E-2	9.67E-3	3.25E-1	2.33E-2	1.48E-1	9.31E-2	-1.17E-1	4.72E-1
RWD	kg	1.05E-4	6.97E-6	2.67E-6	1.14E-4	2.56E-6	1.57E-5	1.36E-7	-5.84E-5	7.44E-5
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