Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	3025877 - Gutter Bend 45° LGY 80 S/S
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	2.91E-1	1.07E-2	1.45E-2	3.17E-1	3.95E-3	1.99E-1	1.25E-3	-1.55E-1	3.66E-1
GWP-f	kg CO2 eq	3.56E-1	1.07E-2	1.12E-2	3.78E-1	3.95E-3	1.13E-1	1.25E-3	-1.94E-1	3.02E-1
GWP-b	kg CO2 eq	-6.51E-2	6.50E-6	3.33E-3	-6.17E-2	2.40E-6	8.61E-2	1.54E-6	3.92E-2	6.36E-2
GWP-luluc	kg CO2 eq	5.43E-4	3.79E-6	1.38E-5	5.60E-4	1.40E-6	4.88E-5	3.41E-8	-4.20E-4	1.91E-4
ODP	kg CFC11 eq	1.65E-7	2.47E-9	1.49E-9	1.69E-7	9.10E-10	1.35E-8	4.64E-11	-8.67E-8	9.69E-8
AP	mol H+ eq	2.10E-3	6.09E-5	7.60E-5	2.24E-3	2.25E-5	2.42E-4	1.13E-6	-8.71E-4	1.63E-3
EP-fw	kg P eq	1.80E-5	8.80E-8	2.72E-7	1.83E-5	3.25E-8	1.63E-6	1.52E-9	-9.98-6	1.00E-5
EP-m	kg N eq	3.51E-4	2.18E-5	2.14E-5	3.95E-4	8.05E-6	6.15E-5	6.82E-7	-1.68E-4	2.97E-4
EP-T	mol N eq	3.75E-3	2.40E-4	2.73E-4	4.26E-3	8.87E-5	6.77E-4	4.51E-6	-1.84E-3	3.19E-3
POCP	kg NMVOC eq	1.17E-3	6.87E-5	6.33E-5	1.30E-3	2.54E-5	2.03E-4	1.55E-6	-5.91E-4	9.42E-4
ADP-mm	kg Sb eq	3.94E-4	2.77E-7	2.92E-7	3.94E-4	1.02E-7	9.59E-7	1.15E-9	-3.79E-6	3.92E-4
ADP-f	MJ	8.18E+0	1.64E-1	1.54E-1	8.50E+0	6.06E-2	6.45E-1	3.39E-3	-4.50E+0	4.71E+0
WDP	m3 depriv.	5.25E-1	5.04E-4	2.88E-1	8.14E-1	1.86E-4	2.41E-2	2.79E-5	-2.97E-1	5.41E-1
PM	disease inc.	1.49E-8	9.66E-10	1.07E-9	1.70E-8	3.56E-10	3.06E-9	2.33E-11	-8.95E-9	1.15E-8
IR	kBq U-235 eq	1.98E-2	7.18E-4	4.19E-4	2.09E-2	2.65E-4	2.30E-3	1.55E-5	-1.06E-2	1.29E-2
ETP-fw	CTUe	1.41E+1	1.33E-1	1.80E-1	1.44E+1	4.92E-2	4.67E+0	5.08E-2	-5.60E+0	1.36E+1
HTP-c	CTUh	3.80E-10	4.75E-12	1.24E-11	3.97E-10	1.75E-12	7.73E-11	9.71E-14	-1.35E-10	3.41E-10
HTP-nc	CTUh	1.00E-8	1.59E-10	3.43E-10	1.05E-8	5.87E-11	1.69E-9	9.84E-12	-4.01E-9	8.27E-9
SQP	Pt	8.54E+0	1.40E-1	1.16E+0	9.84E+0	5.19E-2	3.99E-1	8.64E-3	-1.25E+1	-2.16E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.57E+0	2.36E-3	2.95E-1	1.87E+0	8.70E-4	4.48E-2	1.22E-4	-2.20E+0	-2.87E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.57E+0	2.36E-3	2.95E-1	1.87E+0	8.70E-4	4.48E-2	1.22E-4	-2.20E+0	-2.87E-1
PENRE	MJ	8.78E+0	1.74E-1	1.66E-1	9.12E+0	6.43E-2	6.86E-1	3.60E-3	-4.84E+0	5.03E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.78E+0	1.74E-1	1.66E-1	9.12E+0	6.43E-2	6.86E-1	3.60E-3	-4.84E+0	5.03E+0
PET	MJ	1.04E+1	1.77E-1	4.61E-1	1.10E+1	6.52E-2	7.31E-1	3.72E-3	-7.04E+0	4.75E+0
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	6.69E-3	1.86E-5	6.76E-3	1.35E-2	6.86E-6	6.66E-4	4.13E-6	-4.06E-3	1.01E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.60E-5	4.20E-7	2.11E-7	5.67E-5	1.55E-7	1.09E-6	4.18E-9	-4.18E-6	5.37E-5
NHWD	kg	5.72E-2	1.02E-2	1.55E-3	6.89E-2	3.76E-3	2.40E-2	1.50E-2	-1.85E-2	9.32E-2
RWD	kg	1.77E-5	1.12E-6	4.26E-7	1.92E-5	4.12E-7	2.53E-6	2.20E-8	-9.62E-6	1.26E-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