Environmental Profile

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

Ecochain v3.5.80

Product:	3025903 - Gutter Bend 67°3 Sand 80 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

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	3.48E-1	1.20E-2	1.49E-2	3.75E-1	4.56E-3	2.20E-1	1.44E-3	-1.77E-1	4.24E-1
GWP-f	kg CO2 eq	4.12E-1	1.20E-2	1.18E-2	4.35E-1	4.55E-3	1.30E-1	1.44E-3	-2.23E-1	3.49E-1
GWP-b	kg CO2 eq	-6.45E-2	7.28E-6	3.14E-3	-6.14E-2	2.77E-6	8.96E-2	1.76E-6	4.71E-2	7.53E-2
GWP-luluc	kg CO2 eq	6.31E-4	4.25E-6	1.10E-5	6.46E-4	1.61E-6	5.60E-5	3.96E-8	-4.92E-4	2.12E-4
ODP	kg CFC11 eq	1.89E-7	2.76E-9	1.53E-9	1.94E-7	1.05E-9	1.55E-8	5.35E-11	-9.97E-8	1.10E-7
AP	mol H+ eq	2.46E-3	6.83E-5	6.56E-5	2.60E-3	2.59E-5	2.78E-4	1.31E-6	-1.00E-3	1.90E-3
EP-fw	kg P eq	2.08E-5	9.87E-8	2.80E-7	2.11E-5	3.75E-8	1.87E-6	1.76E-9	-1.16E-5	1.15E-5
EP-m	kg N eq	4.07E-4	2.45E-5	1.93E-5	4.51E-4	9.28E-6	7.09E-5	7.83E-7	-1.92E-4	3.39E-4
EP-T	mol N eq	4.34E-3	2.69E-4	2.31E-4	4.84E-3	1.02E-4	7.80E-4	5.20E-6	-2.12E-3	3.61E-3
POCP	kg NMVOC eq	1.35E-3	7.70E-5	5.71E-5	1.48E-3	2.92E-5	2.34E-4	1.79E-6	-6.76E-4	1.07E-3
ADP-mm	kg Sb eq	4.43E-4	3.10E-7	2.24E-7	4.44E-4	1.18E-7	1.10E-6	1.33E-9	-4.35E-6	4.41E-4
ADP-f	MJ	9.41E+0	1.84E-1	1.64E-1	9.76E+0	6.99E-2	7.43E-1	3.91E-3	-5.17E+0	5.40E+0
WDP	m3 depriv.	6.05E-1	5.65E-4	3.32E-1	9.38E-1	2.15E-4	2.76E-2	3.31E-5	-3.45E-1	6.21E-1
PM	disease inc.	1.73E-8	1.08E-9	9.58E-10	1.94E-8	4.11E-10	3.53E-9	2.69E-11	-1.03E-8	1.30E-8
IR	kBq U-235 eq	2.28E-2	8.05E-4	4.73E-4	2.41E-2	3.06E-4	2.64E-3	1.78E-5	-1.22E-2	1.48E-2
ETP-fw	CTUe	1.64E+1	1.50E-1	1.54E-1	1.67E+1	5.68E-2	5.34E+0	5.81E-2	-6.55E+0	1.57E+1
HTP-c	CTUh	4.38E-10	5.32E-12	1.19E-11	4.56E-10	2.02E-12	8.97E-11	1.12E-13	-1.53E-10	3.95E-10
HTP-nc	CTUh	1.15E-8	1.78E-10	3.08E-10	1.20E-8	6.77E-11	1.94E-9	1.13E-11	-4.62E-9	9.41E-9
SQP	Pt	9.06E+0	1.58E-1	7.53E-1	9.97E+0	5.98E-2	4.59E-1	9.96E-3	-1.40E+1	-3.47E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.70E+0	2.64E-3	1.92E-1	1.90E+0	1.00E-3	5.15E-2	1.40E-4	-2.49E+0	-5.41E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.70E+0	2.64E-3	1.92E-1	1.90E+0	1.00E-3	5.15E-2	1.40E-4	-2.49E+0	-5.41E-1
PENRE	MJ	1.01E+1	1.96E-1	1.78E-1	1.05E+1	7.42E-2	7.90E-1	4.15E-3	-5.56E+0	5.77E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.01E+1	1.96E-1	1.78E-1	1.05E+1	7.42E-2	7.90E-1	4.15E-3	-5.56E+0	5.77E+0
PET	MJ	1.18E+1	1.98E-1	3.70E-1	1.24E+1	7.52E-2	8.42E-1	4.29E-3	-8.05E+0	5.23E+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	7.77E-3	2.08E-5	7.79E-3	1.56E-2	7.91E-6	7.64E-4	4.75E-6	-4.73E-3	1.16E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.32E-5	4.71E-7	2.43E-7	6.40E-5	1.79E-7	1.25E-6	4.83E-9	-4.78E-6	6.06E-5
NHWD	kg	6.74E-2	1.14E-2	1.78E-3	8.06E-2	4.33E-3	2.77E-2	1.73E-2	-2.10E-2	1.09E-1
RWD	kg	2.04E-5	1.25E-6	4.92E-7	2.21E-5	4.75E-7	2.91E-6	2.54E-8	-1.11E-5	1.44E-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

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