Environmental Profile

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

Ecochain v3.5.80

Product:	3025674 - Gutter Bend 67°3 Sand 100 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	5.64E-1	1.99E-2	2.50E-2	6.09E-1	7.46E-3	3.68E-1	2.35E-3	-3.08E-1	6.79E-1
GWP-f	kg CO2 eq	6.72E-1	1.98E-2	1.96E-2	7.11E-1	7.45E-3	2.27E-1	2.35E-3	-3.65E-1	5.83E-1
GWP-b	kg CO2 eq	-1.08E-1	1.20E-5	5.32E-3	-1.03E-1	4.52E-6	1.41E-1	2.89E-6	5.83E-2	9.58E-2
GWP-luluc	kg CO2 eq	9.42E-4	7.02E-6	1.92E-5	9.68E-4	2.64E-6	9.16E-5	6.45E-8	-6.76E-4	3.86E-4
ODP	kg CFC11 eq	3.09E-7	4.57E-9	2.56E-9	3.16E-7	1.72E-9	2.52E-8	8.76E-11	-1.63E-7	1.80E-7
AP	mol H+ eq	3.91E-3	1.13E-4	1.13E-4	4.13E-3	4.24E-5	4.50E-4	2.14E-6	-1.56E-3	3.06E-3
EP-fw	kg P eq	3.33E-5	1.63E-7	4.69E-7	3.39E-5	6.13E-8	3.06E-6	2.86E-9	-1.74E-5	1.96E-5
EP-m	kg N eq	6.45E-4	4.04E-5	3.30E-5	7.18E-4	1.52E-5	1.14E-4	1.28E-6	-2.98E-4	5.51E-4
EP-T	mol N eq	6.92E-3	4.46E-4	4.00E-4	7.77E-3	1.67E-4	1.25E-3	8.50E-6	-3.26E-3	5.94E-3
POCP	kg NMVOC eq	2.20E-3	1.27E-4	9.77E-5	2.43E-3	4.78E-5	3.75E-4	2.93E-6	-1.06E-3	1.79E-3
ADP-mm	kg Sb eq	7.39E-4	5.13E-7	3.96E-7	7.39E-4	1.93E-7	1.78E-6	2.17E-9	-7.00E-6	7.34E-4
ADP-f	MJ	1.56E+1	3.05E-1	2.73E-1	1.62E+1	1.14E-1	1.20E+0	6.40E-3	-8.48E+0	9.06E+0
WDP	m3 depriv.	9.94E-1	9.35E-4	5.47E-1	1.54E+0	3.51E-4	4.52E-2	5.31E-5	-5.38E-1	1.05E+0
PM	disease inc.	2.72E-8	1.79E-9	1.64E-9	3.07E-8	6.72E-10	5.68E-9	4.40E-11	-1.52E-8	2.19E-8
IR	kBq U-235 eq	3.69E-2	1.33E-3	7.80E-4	3.90E-2	5.00E-4	4.27E-3	2.92E-5	-1.89E-2	2.49E-2
ETP-fw	CTUe	2.48E+1	2.47E-1	2.66E-1	2.53E+1	9.29E-2	8.76E+0	9.56E-2	-9.33E+0	2.49E+1
HTP-c	CTUh	6.99E-10	8.80E-12	2.02E-11	7.28E-10	3.30E-12	1.46E-10	1.83E-13	-2.40E-10	6.37E-10
HTP-nc	CTUh	1.87E-8	2.95E-10	5.27E-10	1.95E-8	1.11E-10	3.17E-9	1.85E-11	-7.22E-9	1.56E-8
SQP	Pt	1.43E+1	2.61E-1	1.38E+0	1.59E+1	9.78E-2	7.45E-1	1.63E-2	-1.97E+1	-2.87E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.67E+0	4.37E-3	3.52E-1	3.03E+0	1.64E-3	8.40E-2	2.30E-4	-3.49E+0	-3.80E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.67E+0	4.37E-3	3.52E-1	3.03E+0	1.64E-3	8.40E-2	2.30E-4	-3.49E+0	-3.80E-1
PENRE	MJ	1.68E+1	3.23E-1	2.95E-1	1.74E+1	1.21E-1	1.28E+0	6.79E-3	-9.12E+0	9.68E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.68E+1	3.23E-1	2.95E-1	1.74E+1	1.21E-1	1.28E+0	6.79E-3	-9.12E+0	9.68E+0
PET	MJ	1.94E+1	3.28E-1	6.47E-1	2.04E+1	1.23E-1	1.36E+0	7.02E-3	-1.26E+1	9.30E+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	1.26E-2	3.45E-5	1.28E-2	2.55E-2	1.29E-5	1.25E-3	7.78E-6	-7.07E-3	1.97E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.05E-4	7.79E-7	4.00E-7	1.06E-4	2.92E-7	2.02E-6	7.89E-9	-7.79E-6	1.01E-4
NHWD	kg	1.04E-1	1.89E-2	2.93E-3	1.26E-1	7.09E-3	4.54E-2	2.83E-2	-3.30E-2	1.73E-1
RWD	kg	3.28E-5	2.07E-6	8.09E-7	3.56E-5	7.78E-7	4.68E-6	4.15E-8	-1.72E-5	2.40E-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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