

Environmental Profile

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

Ecochain v3.5.80



Product: 3000513 - PVC Pipe GY BENOR 110x3.2 SN8 L=3 CH
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

Wavin carries a complete PVC range of outdoor sewers. With PVC as a material, a smooth-walled, flexible and completely watertight piping system is obtained. Moreover, PVC is absolutely resistant to all substances that occur in domestic waste water. By working with a light material, large pipe lengths and plug connections, a very fast installation is guaranteed.

LCA standard: NMD Bepalingsmethode 1.1 (2022)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 08-06-2023
End of validity: 08-06-2028
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 - NL - Hardenberg - 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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					D Reuse- Recovery- Recycling- potential											

Environmental impacts and parameters

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO2-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO2-eq]; **EP** = Eutrophication potential [kg PO4 3--eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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

This document and supporting material contain confidential and proprietary business information of Wavin - NL - Hardenberg - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - NL - Hardenberg - Verified.

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	1	0.03	0.05	1.07	0.02	0.36	0	-0.5	0.95
ADPE	kg Sb-eq	2.54E-4	5.59E-6	8.25E-6	2.67E-4	3.51E-6	2.94E-5	3.68E-8	-1.06E-4	1.95E-4
ADPF	kg Sb-eq	1.11E-1	1.61E-3	2.21E-3	1.15E-1	9.88E-4	1.04E-2	5.18E-5	-5.93E-2	6.74E-2
GWP	kg CO2-eq	9.01E+0	2.19E-1	3.93E-1	9.62E+0	1.35E-1	3.44E+0	3.29E-2	-5.00E+0	8.23E+0
ODP	kg CFC-11-eq	5.28E-6	3.88E-8	3.69E-8	5.35E-6	2.49E-8	4.19E-7	1.24E-9	-2.62E-6	3.18E-6
POCP	kg ethene-eq	5.52E-3	1.32E-4	1.73E-4	5.83E-3	8.07E-5	8.14E-4	8.74E-6	-2.55E-3	4.18E-3
AP	kg SO2-eq	3.48E-2	9.62E-4	1.54E-3	3.73E-2	5.79E-4	5.95E-3	2.77E-5	-1.64E-2	2.75E-2
EP	kg PO4 3--eq	4.16E-3	1.89E-4	2.43E-4	4.59E-3	1.16E-4	9.01E-4	1.06E-5	-1.98E-3	3.64E-3
HTP	kg 1,4-DB-eq	3.54E+0	9.21E-2	1.48E-1	3.79E+0	5.75E-2	1.60E+0	2.84E-3	-1.59E+0	3.85E+0
FAETP	kg 1,4-DB-eq	7.66E-2	2.69E-3	6.04E-3	8.53E-2	1.69E-3	2.35E-2	8.39E-4	-3.48E-2	7.65E-2
MAETP	kg 1,4-DB-eq	2.23E+2	9.67E+0	2.47E+1	2.57E+2	6.02E+0	7.78E+1	1.03E+0	-1.02E+2	2.40E+2
TETP	kg 1,4-DB-eq	2.45E-2	3.26E-4	9.22E-3	3.40E-2	2.04E-4	5.71E-3	9.42E-6	-1.16E-2	2.83E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.77E+0	2.21E-1	4.63E-1	9.45E+0	1.36E-1	4.02E+0	3.83E-2	-5.15E+0	8.49E+0
GWP-f	kg CO2 eq	9.24E+0	2.21E-1	3.63E-1	9.82E+0	1.36E-1	3.47E+0	3.83E-2	-5.11E+0	8.35E+0
GWP-b	kg CO2 eq	-4.76E-1	1.02E-4	7.84E-2	-3.98E-1	8.23E-5	5.48E-1	4.92E-5	-3.61E-2	1.14E-1
GWP-luluc	kg CO2 eq	7.44E-3	8.09E-5	2.21E-2	2.96E-2	4.80E-5	1.61E-3	1.04E-6	-3.42E-3	2.79E-2
ODP	kg CFC11 eq	5.20E-6	4.87E-8	4.38E-8	5.29E-6	3.13E-8	4.32E-7	1.55E-9	-2.59E-6	3.17E-6
AP	mol H+ eq	4.20E-2	1.28E-3	1.98E-3	4.52E-2	7.73E-4	7.46E-3	3.70E-5	-1.98E-2	3.38E-2
EP-fw	kg P eq	4.09E-4	2.23E-6	5.18E-6	4.17E-4	1.12E-6	5.34E-5	4.68E-8	-1.91E-4	2.80E-4
EP-m	kg N eq	7.07E-3	4.51E-4	5.83E-4	8.11E-3	2.76E-4	1.82E-3	2.25E-5	-3.44E-3	6.78E-3
EP-T	mol N eq	7.66E-2	4.97E-3	6.25E-3	8.79E-2	3.05E-3	2.00E-2	1.48E-4	-3.70E-2	7.41E-2
POCP	kg NMVOC eq	2.64E-2	1.42E-3	1.76E-3	2.96E-2	8.71E-4	6.01E-3	5.04E-5	-1.26E-2	2.39E-2
ADP-mm	kg Sb eq	2.54E-4	5.59E-6	8.25E-6	2.67E-4	3.51E-6	2.94E-5	3.68E-8	-1.06E-4	1.95E-4
ADP-f	MJ	2.37E+2	3.33E+0	4.20E+0	2.45E+2	2.08E+0	2.05E+1	1.12E-1	-1.24E+2	1.43E+2
WDP	m3 depriv.	1.56E+1	1.19E-2	2.84E+0	1.84E+1	6.39E-3	7.98E-1	6.47E-4	-7.44E+0	1.18E+1
PM	disease inc.	3.01E-7	1.98E-8	3.07E-8	3.51E-7	1.22E-8	9.36E-8	7.68E-10	-1.28E-7	3.30E-7
IR	kBq U-235 eq	5.04E-1	1.39E-2	7.58E-3	5.25E-1	9.10E-3	7.17E-2	5.14E-4	-2.41E-1	3.66E-1
ETP-fw	CTUe	1.60E+2	2.97E+0	7.00E+0	1.70E+2	1.69E+0	1.53E+2	1.69E+0	-7.43E+1	2.52E+2
HTP-c	CTUh	6.37E-9	9.63E-11	2.39E-10	6.70E-9	6.02E-11	2.26E-9	2.93E-12	-2.76E-9	6.26E-9
HTP-nc	CTUh	2.01E-7	3.25E-9	7.31E-9	2.12E-7	2.02E-9	5.40E-8	3.24E-10	-9.53E-8	1.73E-7
SQP	Pt	7.90E+1	2.89E+0	3.14E-1	8.22E+1	1.78E+0	1.28E+1	2.84E-1	-2.40E+1	7.32E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.89E+1	4.17E-2	1.27E+1	3.16E+1	2.99E-2	1.47E+0	4.04E-3	-7.56E+0	2.55E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.89E+1	4.17E-2	1.27E+1	3.16E+1	2.99E-2	1.47E+0	4.04E-3	-7.56E+0	2.55E+1
PENRE	MJ	2.54E+2	3.53E+0	4.55E+0	2.62E+2	2.21E+0	2.18E+1	1.19E-1	-1.34E+2	1.53E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.54E+2	3.53E+0	4.55E+0	2.62E+2	2.21E+0	2.18E+1	1.19E-1	-1.34E+2	1.53E+2
PET	MJ	2.73E+2	3.58E+0	1.72E+1	2.94E+2	2.24E+0	2.33E+1	1.23E-1	-1.42E+2	1.78E+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	1.66E-1	4.05E-4	6.68E-2	2.34E-1	2.36E-4	2.18E-2	1.37E-4	-7.78E-2	1.78E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.89E-4	8.43E-6	5.88E-6	2.04E-4	5.32E-6	3.31E-5	1.35E-7	-1.03E-4	1.39E-4
NHWD	kg	9.02E-1	2.11E-1	8.48E-3	1.12E+0	1.29E-1	7.62E-1	5.16E-1	-4.00E-1	2.13E+0
RWD	kg	4.42E-4	2.19E-5	1.06E-5	4.74E-4	1.42E-5	7.70E-5	7.32E-7	-2.12E-4	3.54E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777