

Environmental Profile

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

Ecochain v3.5.80



Product: 3006923 - PVC-A Pipe YL 63x2 SDR33 L=10 CH
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
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Netherlands

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



PVC-A is very suitable for use in underground low-pressure gas distribution networks. The Gastec Qa quality mark guarantees the high quality of this system.

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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	1.45	0.02	0.05	1.52	0.02	0.44	0	-0.64	1.34
ADPE	kg Sb-eq	8.77E-3	5.21E-6	9.36E-6	8.78E-3	3.98E-6	3.48E-5	4.43E-8	-1.34E-4	8.69E-3
ADPF	kg Sb-eq	1.53E-1	1.50E-3	2.51E-3	1.57E-1	1.12E-3	1.22E-2	6.14E-5	-7.58E-2	9.46E-2
GWP	kg CO2-eq	1.37E+1	2.04E-1	4.46E-1	1.44E+1	1.53E-1	4.31E+0	4.17E-2	-6.39E+0	1.25E+1
ODP	kg CFC-11-eq	6.06E-6	3.62E-8	4.19E-8	6.14E-6	2.83E-8	5.12E-7	1.46E-9	-3.32E-6	3.36E-6
POCP	kg ethene-eq	9.46E-3	1.23E-4	1.97E-4	9.78E-3	9.16E-5	9.52E-4	1.08E-5	-3.26E-3	7.57E-3
AP	kg SO2-eq	5.85E-2	8.97E-4	1.75E-3	6.11E-2	6.57E-4	7.10E-3	3.30E-5	-2.08E-2	4.81E-2
EP	kg PO4 3--eq	6.76E-3	1.76E-4	2.76E-4	7.21E-3	1.31E-4	1.07E-3	1.30E-5	-2.53E-3	5.89E-3
HTP	kg 1,4-DB-eq	4.28E+0	8.59E-2	1.68E-1	4.54E+0	6.53E-2	1.86E+0	3.46E-3	-2.02E+0	4.45E+0
FAETP	kg 1,4-DB-eq	1.15E-1	2.51E-3	6.86E-3	1.24E-1	1.91E-3	2.85E-2	1.08E-3	-4.42E-2	1.12E-1
MAETP	kg 1,4-DB-eq	3.04E+2	9.02E+0	2.80E+1	3.41E+2	6.83E+0	9.47E+1	1.31E+0	-1.30E+2	3.14E+2
TETP	kg 1,4-DB-eq	3.01E-2	3.04E-4	1.05E-2	4.09E-2	2.31E-4	6.68E-3	1.16E-5	-1.47E-2	3.31E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.33E+1	2.06E-1	5.26E-1	1.40E+1	1.54E-1	5.32E+0	4.86E-2	-6.59E+0	1.29E+1
GWP-f	kg CO2 eq	1.41E+1	2.06E-1	4.12E-1	1.48E+1	1.54E-1	4.34E+0	4.86E-2	-6.54E+0	1.28E+1
GWP-b	kg CO2 eq	-8.76E-1	9.50E-5	8.90E-2	-7.87E-1	9.35E-5	9.77E-1	6.12E-5	-4.55E-2	1.44E-1
GWP-luluc	kg CO2 eq	1.00E-2	7.54E-5	2.51E-2	3.52E-2	5.45E-5	1.92E-3	1.28E-6	-4.36E-3	3.28E-2
ODP	kg CFC11 eq	5.97E-6	4.54E-8	4.97E-8	6.07E-6	3.55E-8	5.26E-7	1.82E-9	-3.28E-6	3.35E-6
AP	mol H+ eq	7.00E-2	1.19E-3	2.25E-3	7.34E-2	8.77E-4	8.90E-3	4.42E-5	-2.51E-2	5.81E-2
EP-fw	kg P eq	6.08E-4	2.08E-6	5.89E-6	6.16E-4	1.27E-6	6.41E-5	5.79E-8	-2.42E-4	4.39E-4
EP-m	kg N eq	1.21E-2	4.21E-4	6.62E-4	1.32E-2	3.14E-4	2.16E-3	2.73E-5	-4.40E-3	1.13E-2
EP-T	mol N eq	1.22E-1	4.64E-3	7.10E-3	1.34E-1	3.46E-3	2.38E-2	1.76E-4	-4.75E-2	1.14E-1
POCP	kg NMVOC eq	4.41E-2	1.32E-3	2.00E-3	4.74E-2	9.88E-4	7.12E-3	6.06E-5	-1.62E-2	3.94E-2
ADP-mm	kg Sb eq	8.77E-3	5.21E-6	9.36E-6	8.78E-3	3.98E-6	3.48E-5	4.43E-8	-1.34E-4	8.69E-3
ADP-f	MJ	3.24E+2	3.10E+0	4.76E+0	3.32E+2	2.36E+0	2.41E+1	1.33E-1	-1.59E+2	1.99E+2
WDP	m3 depriv.	1.88E+1	1.11E-2	3.22E+0	2.20E+1	7.25E-3	9.65E-1	8.79E-4	-9.41E+0	1.36E+1
PM	disease inc.	5.17E-7	1.85E-8	3.48E-8	5.70E-7	1.39E-8	1.09E-7	9.14E-10	-1.64E-7	5.30E-7
IR	kBq U-235 eq	6.17E-1	1.30E-2	8.60E-3	6.39E-1	1.03E-2	8.49E-2	6.09E-4	-3.04E-1	4.30E-1
ETP-fw	CTUe	2.68E+2	2.77E+0	7.95E+0	2.79E+2	1.92E+0	1.89E+2	2.09E+0	-9.44E+1	3.77E+2
HTP-c	CTUh	9.25E-9	8.98E-11	2.71E-10	9.61E-9	6.83E-11	2.74E-9	3.67E-12	-3.51E-9	8.92E-9
HTP-nc	CTUh	2.97E-7	3.03E-9	8.30E-9	3.08E-7	2.29E-9	6.54E-8	4.02E-10	-1.21E-7	2.56E-7
SQP	Pt	1.26E+2	2.69E+0	3.56E-1	1.29E+2	2.02E+0	1.48E+1	3.40E-1	-3.58E+1	1.10E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.76E+1	3.89E-2	1.44E+1	4.20E+1	3.39E-2	1.76E+0	4.93E-3	-1.07E+1	3.31E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.76E+1	3.89E-2	1.44E+1	4.20E+1	3.39E-2	1.76E+0	4.93E-3	-1.07E+1	3.31E+1
PENRE	MJ	3.48E+2	3.30E+0	5.16E+0	3.56E+2	2.51E+0	2.57E+1	1.41E-1	-1.71E+2	2.13E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.48E+2	3.30E+0	5.16E+0	3.56E+2	2.51E+0	2.57E+1	1.41E-1	-1.71E+2	2.13E+2
PET	MJ	3.75E+2	3.33E+0	1.95E+1	3.98E+2	2.54E+0	2.74E+1	1.46E-1	-1.82E+2	2.46E+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	2.15E-1	3.78E-4	7.59E-2	2.91E-1	2.67E-4	2.65E-2	1.62E-4	-9.83E-2	2.20E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.30E-3	7.87E-6	6.67E-6	1.31E-3	6.04E-6	3.89E-5	1.62E-7	-1.32E-4	1.22E-3
NHWD	kg	1.17E+0	1.97E-1	9.63E-3	1.37E+0	1.46E-1	8.89E-1	5.85E-1	-5.08E-1	2.49E+0
RWD	kg	5.36E-4	2.04E-5	1.20E-5	5.69E-4	1.61E-5	9.03E-5	8.63E-7	-2.69E-4	4.07E-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



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