

Environmental Profile

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

Ecochain v3.5.64



Product: 3053517 - SafeTech RCn Gas Pp 50x4.6 L=100 BC
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
Address: Borrweg 10
39448 Börde-Hakel
Germany
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LCA standard: EN15804+A2 (2019)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 11-08-2022
End of validity: 11-08-2027
Verifier: Martijn van Hövell - SGS Search



Wavin SafeTech RC n is a co-extruded PE-100 RC two-layer pipe with protective properties according to PAS 1075. The outer signal layer is about 10% of the standard wall thickness and is colored according to the medium - blue for drinking water, orange for gas and green for waste water.

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 - DE - Westeregeln - 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

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.35E+2	5.30E+0	2.78E+0	1.43E+2	1.77E+0	5.76E+1	9.81E-1	-8.89E+1	1.15E+2
GWP-f	kg CO2 eq	1.35E+2	5.29E+0	2.28E+0	1.42E+2	1.77E+0	5.77E+1	9.82E-1	-8.85E+1	1.14E+2
GWP-b	kg CO2 eq	6.62E-1	2.44E-3	2.35E-1	8.99E-1	1.08E-3	-7.09E-2	7.37E-4	-3.36E-1	4.94E-1
GWP-luluc	kg CO2 eq	4.10E-2	1.94E-3	2.64E-1	3.07E-1	6.27E-4	9.95E-3	1.41E-5	-2.01E-2	2.98E-1
ODP	kg CFC11 eq	6.97E-6	1.17E-6	2.99E-7	8.44E-6	4.08E-7	1.30E-6	2.09E-8	-4.25E-6	5.92E-6
AP	mol H+ eq	5.04E-1	3.07E-2	1.35E-2	5.48E-1	1.01E-2	5.45E-2	5.00E-4	-2.45E-1	3.68E-1
EP-fw	kg P eq	2.25E-3	5.34E-5	5.17E-5	2.35E-3	1.46E-5	2.87E-4	6.49E-7	-1.10E-3	1.55E-3
EP-m	kg N eq	8.42E-2	1.08E-2	2.77E-3	9.77E-2	3.61E-3	1.58E-2	3.53E-4	-4.48E-2	7.27E-2
EP-T	mol N eq	9.41E-1	1.19E-1	2.79E-2	1.09E+0	3.98E-2	1.74E-1	2.03E-3	-4.99E-1	8.06E-1
POCP	kg NMVOC eq	4.48E-1	3.40E-2	8.05E-3	4.90E-1	1.14E-2	5.51E-2	7.95E-4	-2.33E-1	3.25E-1
ADP-mm	kg Sb eq	1.34E-3	1.34E-4	6.72E-5	1.54E-3	4.58E-5	2.15E-4	5.02E-7	-5.72E-4	1.23E-3
ADP-f	MJ	4.76E+3	7.98E+1	2.68E+1	4.86E+3	2.72E+1	1.73E+2	1.53E+0	-2.66E+3	2.41E+3
WDP	m3 depriv.	1.04E+2	2.86E-1	1.53E+1	1.19E+2	8.35E-2	3.39E+0	7.09E-3	-5.16E+1	7.12E+1
PM	disease inc.	4.71E-6	4.75E-7	1.21E-7	5.31E-6	1.60E-7	8.96E-7	1.05E-8	-1.94E-6	4.44E-6
IR	kBq U-235 eq	4.02E+0	3.34E-1	7.19E-2	4.42E+0	1.19E-1	5.20E-1	7.13E-3	-1.60E+0	3.47E+0
ETP-fw	CTUe	8.72E+2	7.12E+1	6.57E+1	1.01E+3	2.21E+1	1.96E+2	1.35E+0	-3.86E+2	8.42E+2
HTP-c	CTUh	3.59E-8	2.31E-9	2.44E-9	4.07E-8	7.86E-10	2.33E-8	3.72E-11	-1.83E-8	4.64E-8
HTP-nc	CTUh	8.52E-7	7.78E-8	6.29E-8	9.93E-7	2.63E-8	2.94E-7	8.57E-10	-4.10E-7	9.03E-7
SQP	Pt	1.82E+2	6.92E+1	2.57E+0	2.54E+2	2.33E+1	1.38E+2	3.92E+0	-8.42E+1	3.35E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.76E+1	9.99E-1	1.42E+2	2.21E+2	3.90E-1	8.52E+0	6.05E-2	-3.84E+1	1.92E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.76E+1	9.99E-1	1.42E+2	2.21E+2	3.90E-1	8.52E+0	6.05E-2	-3.84E+1	1.92E+2
PENRE	MJ	5.10E+3	8.47E+1	2.86E+1	5.21E+3	2.89E+1	1.84E+2	1.62E+0	-2.87E+3	2.56E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.10E+3	8.47E+1	2.86E+1	5.21E+3	2.89E+1	1.84E+2	1.62E+0	-2.87E+3	2.56E+3
PET	MJ	5.18E+3	8.57E+1	1.71E+2	5.44E+3	2.93E+1	1.92E+2	1.68E+0	-2.90E+3	2.76E+3
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	1.58E+0	9.72E-3	3.63E-1	1.95E+0	3.08E-3	9.97E-2	1.89E-3	-7.89E-1	1.27E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.48E-4	2.02E-4	4.32E-5	8.93E-4	6.95E-5	2.81E-4	1.84E-6	-7.80E-4	4.66E-4
NHWD	kg	4.48E+0	5.06E+0	5.43E-2	9.60E+0	1.69E+0	8.48E+0	6.74E+0	-2.16E+0	2.43E+1
RWD	kg	4.30E-3	5.24E-4	1.03E-4	4.93E-3	1.85E-4	6.59E-4	1.00E-5	-1.49E-3	4.30E-3
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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