

Environmental Profile

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

Ecochain v3.5.64



Product: 3053495 - SafeTech RCn Gas Pp 40x3.7 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	8.72E+1	3.42E+0	1.79E+0	9.24E+1	1.14E+0	3.72E+1	6.33E-1	-5.73E+1	7.40E+1
GWP-f	kg CO2 eq	8.68E+1	3.41E+0	1.47E+0	9.17E+1	1.14E+0	3.72E+1	6.33E-1	-5.71E+1	7.35E+1
GWP-b	kg CO2 eq	4.27E-1	1.58E-3	1.51E-1	5.80E-1	6.94E-4	-4.57E-2	4.75E-4	-2.17E-1	3.19E-1
GWP-luluc	kg CO2 eq	2.64E-2	1.25E-3	1.70E-1	1.98E-1	4.04E-4	6.42E-3	9.10E-6	-1.30E-2	1.92E-1
ODP	kg CFC11 eq	4.50E-6	7.53E-7	1.93E-7	5.44E-6	2.63E-7	8.35E-7	1.35E-8	-2.74E-6	3.82E-6
AP	mol H+ eq	3.25E-1	1.98E-2	8.70E-3	3.54E-1	6.51E-3	3.51E-2	3.22E-4	-1.58E-1	2.37E-1
EP-fw	kg P eq	1.45E-3	3.44E-5	3.33E-5	1.52E-3	9.40E-6	1.85E-4	4.19E-7	-7.11E-4	9.99E-4
EP-m	kg N eq	5.43E-2	6.97E-3	1.79E-3	6.30E-2	2.33E-3	1.02E-2	2.28E-4	-2.89E-2	4.69E-2
EP-T	mol N eq	6.07E-1	7.69E-2	1.80E-2	7.02E-1	2.57E-2	1.12E-1	1.31E-3	-3.22E-1	5.20E-1
POCP	kg NMVOC eq	2.89E-1	2.20E-2	5.19E-3	3.16E-1	7.34E-3	3.55E-2	5.13E-4	-1.50E-1	2.10E-1
ADP-mm	kg Sb eq	8.63E-4	8.65E-5	4.33E-5	9.93E-4	2.96E-5	1.39E-4	3.24E-7	-3.69E-4	7.92E-4
ADP-f	MJ	3.07E+3	5.15E+1	1.73E+1	3.14E+3	1.75E+1	1.11E+2	9.86E-1	-1.71E+3	1.55E+3
WDP	m3 depriv.	6.69E+1	1.84E-1	9.86E+0	7.69E+1	5.38E-2	2.19E+0	4.57E-3	-3.33E+1	4.59E+1
PM	disease inc.	3.04E-6	3.06E-7	7.78E-8	3.42E-6	1.03E-7	5.78E-7	6.77E-9	-1.25E-6	2.86E-6
IR	kBq U-235 eq	2.59E+0	2.16E-1	4.64E-2	2.85E+0	7.67E-2	3.35E-1	4.59E-3	-1.03E+0	2.23E+0
ETP-fw	CTUe	5.62E+2	4.59E+1	4.24E+1	6.51E+2	1.42E+1	1.26E+2	8.69E-1	-2.49E+2	5.43E+2
HTP-c	CTUh	2.32E-8	1.49E-9	1.58E-9	2.62E-8	5.07E-10	1.50E-8	2.40E-11	-1.18E-8	2.99E-8
HTP-nc	CTUh	5.49E-7	5.02E-8	4.06E-8	6.40E-7	1.70E-8	1.90E-7	5.53E-10	-2.65E-7	5.82E-7
SQP	Pt	1.17E+2	4.47E+1	1.66E+0	1.64E+2	1.50E+1	8.89E+1	2.53E+0	-5.43E+1	2.16E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.01E+1	6.44E-1	9.18E+1	1.43E+2	2.52E-1	5.49E+0	3.90E-2	-2.48E+1	1.24E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.01E+1	6.44E-1	9.18E+1	1.43E+2	2.52E-1	5.49E+0	3.90E-2	-2.48E+1	1.24E+2
PENRE	MJ	3.29E+3	5.46E+1	1.84E+1	3.36E+3	1.86E+1	1.19E+2	1.05E+0	-1.85E+3	1.65E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.29E+3	5.46E+1	1.84E+1	3.36E+3	1.86E+1	1.19E+2	1.05E+0	-1.85E+3	1.65E+3
PET	MJ	3.34E+3	5.53E+1	1.10E+2	3.51E+3	1.89E+1	1.24E+2	1.09E+0	-1.87E+3	1.78E+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	1.02E+0	6.27E-3	2.34E-1	1.26E+0	1.98E-3	6.43E-2	1.22E-3	-5.09E-1	8.17E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.18E-4	1.30E-4	2.79E-5	5.76E-4	4.48E-5	1.81E-4	1.18E-6	-5.03E-4	3.00E-4
NHWD	kg	2.89E+0	3.26E+0	3.50E-2	6.19E+0	1.09E+0	5.47E+0	4.34E+0	-1.40E+0	1.57E+1
RWD	kg	2.78E-3	3.38E-4	6.66E-5	3.18E-3	1.19E-4	4.25E-4	6.45E-6	-9.60E-4	2.77E-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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