

Environmental Profile

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

Ecochain v3.5.64



Product: 3053570 - SafeTech RCn Gas Pp 160x14.6 L=12 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	1.63E+2	7.17E+0	3.25E+0	1.74E+2	2.13E+0	6.98E+1	1.18E+0	-1.07E+2	1.40E+2
GWP-f	kg CO2 eq	1.63E+2	7.16E+0	2.68E+0	1.72E+2	2.13E+0	6.98E+1	1.18E+0	-1.07E+2	1.39E+2
GWP-b	kg CO2 eq	7.80E-1	2.99E-3	2.71E-1	1.05E+0	1.29E-3	-8.03E-2	8.85E-4	-4.04E-1	5.72E-1
GWP-luluc	kg CO2 eq	4.99E-2	2.74E-3	3.04E-1	3.57E-1	7.54E-4	1.20E-2	1.70E-5	-2.42E-2	3.45E-1
ODP	kg CFC11 eq	8.41E-6	1.57E-6	3.56E-7	1.03E-5	4.91E-7	1.56E-6	2.52E-8	-5.14E-6	7.28E-6
AP	mol H+ eq	6.10E-1	5.38E-2	1.58E-2	6.79E-1	1.21E-2	6.55E-2	6.01E-4	-2.95E-1	4.62E-1
EP-fw	kg P eq	2.73E-3	6.94E-5	6.05E-5	2.86E-3	1.75E-5	3.45E-4	7.80E-7	-1.33E-3	1.89E-3
EP-m	kg N eq	1.02E-1	1.74E-2	3.28E-3	1.23E-1	4.34E-3	1.91E-2	4.25E-4	-5.39E-2	9.24E-2
EP-T	mol N eq	1.14E+0	1.93E-1	3.30E-2	1.36E+0	4.78E-2	2.10E-1	2.44E-3	-6.00E-1	1.02E+0
POCP	kg NMVOC eq	5.41E-1	5.38E-2	9.49E-3	6.05E-1	1.37E-2	6.63E-2	9.56E-4	-2.80E-1	4.06E-1
ADP-mm	kg Sb eq	1.61E-3	1.73E-4	7.75E-5	1.86E-3	5.51E-5	2.59E-4	6.03E-7	-6.88E-4	1.49E-3
ADP-f	MJ	5.74E+3	1.07E+2	3.16E+1	5.87E+3	3.27E+1	2.08E+2	1.84E+0	-3.20E+3	2.92E+3
WDP	m3 depriv.	1.25E+2	3.70E-1	1.77E+1	1.43E+2	1.00E-1	4.08E+0	8.52E-3	-6.20E+1	8.53E+1
PM	disease inc.	5.69E-6	6.16E-7	1.43E-7	6.45E-6	1.92E-7	1.08E-6	1.26E-8	-2.33E-6	5.40E-6
IR	kBq U-235 eq	4.85E+0	4.49E-1	8.61E-2	5.39E+0	1.43E-1	6.25E-1	8.56E-3	-1.93E+0	4.24E+0
ETP-fw	CTUe	1.06E+3	9.39E+1	7.65E+1	1.23E+3	2.65E+1	2.36E+2	1.62E+0	-4.64E+2	1.03E+3
HTP-c	CTUh	4.34E-8	3.17E-9	2.84E-9	4.94E-8	9.44E-10	2.81E-8	4.47E-11	-2.21E-8	5.64E-8
HTP-nc	CTUh	1.03E-6	1.02E-7	7.29E-8	1.20E-6	3.16E-8	3.54E-7	1.03E-9	-4.93E-7	1.10E-6
SQP	Pt	2.22E+2	8.85E+1	3.08E+0	3.13E+2	2.80E+1	1.66E+2	4.72E+0	-1.01E+2	4.10E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.42E+1	1.30E+0	1.64E+2	2.59E+2	4.69E-1	1.02E+1	7.27E-2	-4.62E+1	2.24E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.42E+1	1.30E+0	1.64E+2	2.59E+2	4.69E-1	1.02E+1	7.27E-2	-4.62E+1	2.24E+2
PENRE	MJ	6.15E+3	1.14E+2	3.37E+1	6.30E+3	3.47E+1	2.21E+2	1.95E+0	-3.45E+3	3.11E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.15E+3	1.14E+2	3.37E+1	6.30E+3	3.47E+1	2.21E+2	1.95E+0	-3.45E+3	3.11E+3
PET	MJ	6.25E+3	1.15E+2	1.98E+2	6.56E+3	3.52E+1	2.31E+2	2.02E+0	-3.50E+3	3.33E+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	1.91E+0	1.26E-2	4.20E-1	2.34E+0	3.70E-3	1.20E-1	2.27E-3	-9.48E-1	1.52E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.90E-4	2.62E-4	5.19E-5	1.10E-3	8.36E-5	3.38E-4	2.21E-6	-9.44E-4	5.83E-4
NHWD	kg	5.44E+0	6.43E+0	6.50E-2	1.19E+1	2.03E+0	1.02E+1	8.10E+0	-2.60E+0	2.97E+1
RWD	kg	5.19E-3	7.05E-4	1.24E-4	6.02E-3	2.22E-4	7.92E-4	1.20E-5	-1.79E-3	5.26E-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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