

Environmental Profile

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

Ecochain v3.5.64



Product: 3053505 - SafeTech RCn Gas Pp 90x5.4 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	3.55E+1	1.57E+0	6.51E-1	3.78E+1	4.66E-1	1.51E+1	2.58E-1	-2.33E+1	3.03E+1
GWP-f	kg CO2 eq	3.54E+1	1.56E+0	5.43E-1	3.75E+1	4.65E-1	1.52E+1	2.58E-1	-2.33E+1	3.01E+1
GWP-b	kg CO2 eq	1.72E-1	6.54E-4	5.11E-2	2.24E-1	2.83E-4	-1.68E-2	1.94E-4	-8.82E-2	1.19E-1
GWP-luluc	kg CO2 eq	1.08E-2	5.99E-4	5.72E-2	6.85E-2	1.65E-4	2.61E-3	3.71E-6	-5.29E-3	6.60E-2
ODP	kg CFC11 eq	1.83E-6	3.43E-7	7.52E-8	2.25E-6	1.07E-7	3.40E-7	5.50E-9	-1.12E-6	1.59E-6
AP	mol H+ eq	1.33E-1	1.18E-2	3.14E-3	1.47E-1	2.65E-3	1.43E-2	1.31E-4	-6.44E-2	1.00E-1
EP-fw	kg P eq	5.91E-4	1.52E-5	1.21E-5	6.18E-4	3.83E-6	7.54E-5	1.71E-7	-2.90E-4	4.07E-4
EP-m	kg N eq	2.21E-2	3.81E-3	6.80E-4	2.66E-2	9.48E-4	4.16E-3	9.28E-5	-1.18E-2	2.01E-2
EP-T	mol N eq	2.47E-1	4.21E-2	6.76E-3	2.96E-1	1.05E-2	4.58E-2	5.33E-4	-1.31E-1	2.22E-1
POCP	kg NMVOC eq	1.18E-1	1.18E-2	1.95E-3	1.31E-1	2.99E-3	1.45E-2	2.09E-4	-6.11E-2	8.81E-2
ADP-mm	kg Sb eq	3.51E-4	3.78E-5	1.46E-5	4.04E-4	1.20E-5	5.66E-5	1.32E-7	-1.50E-4	3.22E-4
ADP-f	MJ	1.25E+3	2.34E+1	6.47E+0	1.28E+3	7.14E+0	4.54E+1	4.02E-1	-6.98E+2	6.35E+2
WDP	m3 depriv.	2.73E+1	8.07E-2	3.35E+0	3.07E+1	2.19E-2	8.91E-1	1.86E-3	-1.36E+1	1.81E+1
PM	disease inc.	1.24E-6	1.35E-7	2.96E-8	1.40E-6	4.20E-8	2.35E-7	2.76E-9	-5.09E-7	1.17E-6
IR	kBq U-235 eq	1.05E+0	9.81E-2	1.85E-2	1.17E+0	3.12E-2	1.37E-1	1.87E-3	-4.21E-1	9.20E-1
ETP-fw	CTUe	2.29E+2	2.05E+1	1.50E+1	2.65E+2	5.80E+0	5.15E+1	3.54E-1	-1.01E+2	2.21E+2
HTP-c	CTUh	9.44E-9	6.92E-10	5.53E-10	1.07E-8	2.06E-10	6.12E-9	9.77E-12	-4.82E-9	1.22E-8
HTP-nc	CTUh	2.24E-7	2.22E-8	1.40E-8	2.60E-7	6.91E-9	7.72E-8	2.25E-10	-1.08E-7	2.37E-7
SQP	Pt	4.80E+1	1.93E+1	6.68E-1	6.80E+1	6.11E+0	3.62E+1	1.03E+0	-2.22E+1	8.92E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.04E+1	2.85E-1	3.08E+1	5.15E+1	1.02E-1	2.24E+0	1.59E-2	-1.01E+1	4.38E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.04E+1	2.85E-1	3.08E+1	5.15E+1	1.02E-1	2.24E+0	1.59E-2	-1.01E+1	4.38E+1
PENRE	MJ	1.34E+3	2.48E+1	6.92E+0	1.37E+3	7.58E+0	4.83E+1	4.26E-1	-7.53E+2	6.76E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.34E+3	2.48E+1	6.92E+0	1.37E+3	7.58E+0	4.83E+1	4.26E-1	-7.53E+2	6.76E+2
PET	MJ	1.36E+3	2.51E+1	3.77E+1	1.42E+3	7.69E+0	5.06E+1	4.42E-1	-7.63E+2	7.19E+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	4.15E-1	2.75E-3	7.96E-2	4.97E-1	8.08E-4	2.62E-2	4.96E-4	-2.07E-1	3.17E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.70E-4	5.71E-5	1.13E-5	2.39E-4	1.83E-5	7.39E-5	4.82E-7	-2.05E-4	1.26E-4
NHWD	kg	1.18E+0	1.40E+0	1.40E-2	2.60E+0	4.43E-1	2.23E+0	1.77E+0	-5.69E-1	6.47E+0
RWD	kg	1.13E-3	1.54E-4	2.71E-5	1.31E-3	4.86E-5	1.73E-4	2.63E-6	-3.91E-4	1.14E-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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