

Environmental Profile

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

Ecochain v3.5.64



Product: 3084964 - SafeTech RCn Gas Pp 25x3.0 L=100
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	4.28E+1	1.68E+0	8.79E-1	4.54E+1	5.61E-1	1.82E+1	3.11E-1	-2.81E+1	3.64E+1
GWP-f	kg CO2 eq	4.26E+1	1.68E+0	7.21E-1	4.50E+1	5.61E-1	1.83E+1	3.11E-1	-2.80E+1	3.61E+1
GWP-b	kg CO2 eq	2.09E-1	7.73E-4	7.43E-2	2.84E-1	3.41E-4	-2.24E-2	2.33E-4	-1.06E-1	1.56E-1
GWP-luluc	kg CO2 eq	1.30E-2	6.14E-4	8.36E-2	9.72E-2	1.98E-4	3.15E-3	4.47E-6	-6.38E-3	9.42E-2
ODP	kg CFC11 eq	2.21E-6	3.70E-7	9.45E-8	2.67E-6	1.29E-7	4.10E-7	6.63E-9	-1.34E-6	1.87E-6
AP	mol H+ eq	1.60E-1	9.71E-3	4.27E-3	1.74E-1	3.19E-3	1.72E-2	1.58E-4	-7.76E-2	1.17E-1
EP-fw	kg P eq	7.11E-4	1.69E-5	1.64E-5	7.44E-4	4.61E-6	9.09E-5	2.06E-7	-3.49E-4	4.91E-4
EP-m	kg N eq	2.66E-2	3.42E-3	8.78E-4	3.09E-2	1.14E-3	5.01E-3	1.12E-4	-1.42E-2	2.30E-2
EP-T	mol N eq	2.98E-1	3.77E-2	8.85E-3	3.45E-1	1.26E-2	5.52E-2	6.42E-4	-1.58E-1	2.55E-1
POCP	kg NMVOC eq	1.42E-1	1.08E-2	2.55E-3	1.55E-1	3.60E-3	1.74E-2	2.52E-4	-7.36E-2	1.03E-1
ADP-mm	kg Sb eq	4.24E-4	4.24E-5	2.13E-5	4.87E-4	1.45E-5	6.82E-5	1.59E-7	-1.81E-4	3.89E-4
ADP-f	MJ	1.51E+3	2.53E+1	8.47E+0	1.54E+3	8.61E+0	5.46E+1	4.84E-1	-8.41E+2	7.62E+2
WDP	m3 depriv.	3.28E+1	9.04E-2	4.84E+0	3.78E+1	2.64E-2	1.07E+0	2.24E-3	-1.63E+1	2.25E+1
PM	disease inc.	1.49E-6	1.50E-7	3.82E-8	1.68E-6	5.06E-8	2.84E-7	3.33E-9	-6.14E-7	1.40E-6
IR	kBq U-235 eq	1.27E+0	1.06E-1	2.28E-2	1.40E+0	3.76E-2	1.65E-1	2.26E-3	-5.07E-1	1.10E+0
ETP-fw	CTUe	2.76E+2	2.25E+1	2.08E+1	3.19E+2	6.99E+0	6.20E+1	4.27E-1	-1.22E+2	2.67E+2
HTP-c	CTUh	1.14E-8	7.31E-10	7.74E-10	1.29E-8	2.49E-10	7.37E-9	1.18E-11	-5.81E-9	1.47E-8
HTP-nc	CTUh	2.70E-7	2.46E-8	1.99E-8	3.14E-7	8.33E-9	9.31E-8	2.71E-10	-1.30E-7	2.86E-7
SQP	Pt	5.76E+1	2.19E+1	8.13E-1	8.04E+1	7.36E+0	4.36E+1	1.24E+0	-2.67E+1	1.06E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.46E+1	3.16E-1	4.51E+1	7.00E+1	1.23E-1	2.70E+0	1.91E-2	-1.22E+1	6.06E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.46E+1	3.16E-1	4.51E+1	7.00E+1	1.23E-1	2.70E+0	1.91E-2	-1.22E+1	6.06E+1
PENRE	MJ	1.61E+3	2.68E+1	9.05E+0	1.65E+3	9.14E+0	5.82E+1	5.14E-1	-9.07E+2	8.12E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.61E+3	2.68E+1	9.05E+0	1.65E+3	9.14E+0	5.82E+1	5.14E-1	-9.07E+2	8.12E+2
PET	MJ	1.64E+3	2.71E+1	5.41E+1	1.72E+3	9.26E+0	6.09E+1	5.33E-1	-9.19E+2	8.72E+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	4.99E-1	3.08E-3	1.15E-1	6.17E-1	9.74E-4	3.16E-2	5.98E-4	-2.50E-1	4.01E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.05E-4	6.40E-5	1.37E-5	2.83E-4	2.20E-5	8.90E-5	5.81E-7	-2.47E-4	1.47E-4
NHWD	kg	1.42E+0	1.60E+0	1.72E-2	3.04E+0	5.34E-1	2.69E+0	2.13E+0	-6.85E-1	7.70E+0
RWD	kg	1.36E-3	1.66E-4	3.27E-5	1.56E-3	5.85E-5	2.09E-4	3.17E-6	-4.71E-4	1.36E-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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