

Environmental Profile

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

Ecochain v3.5.64



Product: 3053556 - SafeTech RCn Gas Pp 40x3.7 L=6 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	5.26E+0	2.05E-1	1.07E-1	5.57E+0	6.86E-2	2.24E+0	3.80E-2	-3.45E+0	4.47E+0
GWP-f	kg CO2 eq	5.23E+0	2.05E-1	8.81E-2	5.53E+0	6.86E-2	2.24E+0	3.80E-2	-3.43E+0	4.44E+0
GWP-b	kg CO2 eq	2.54E-2	9.46E-5	9.08E-3	3.46E-2	4.16E-5	-2.57E-3	2.85E-5	-1.30E-2	1.91E-2
GWP-luluc	kg CO2 eq	1.59E-3	7.51E-5	1.02E-2	1.19E-2	2.43E-5	3.85E-4	5.46E-7	-7.80E-4	1.15E-2
ODP	kg CFC11 eq	2.70E-7	4.52E-8	1.16E-8	3.27E-7	1.58E-8	5.02E-8	8.11E-10	-1.65E-7	2.29E-7
AP	mol H+ eq	1.96E-2	1.19E-3	5.22E-4	2.13E-2	3.91E-4	2.11E-3	1.93E-5	-9.50E-3	1.44E-2
EP-fw	kg P eq	8.79E-5	2.07E-6	2.00E-6	9.19E-5	5.64E-7	1.11E-5	2.51E-8	-4.27E-5	6.09E-5
EP-m	kg N eq	3.29E-3	4.19E-4	1.07E-4	3.82E-3	1.40E-4	6.14E-4	1.37E-5	-1.74E-3	2.85E-3
EP-T	mol N eq	3.66E-2	4.62E-3	1.08E-3	4.23E-2	1.54E-3	6.76E-3	7.85E-5	-1.93E-2	3.14E-2
POCP	kg NMVOC eq	1.74E-2	1.32E-3	3.11E-4	1.90E-2	4.40E-4	2.14E-3	3.08E-5	-9.01E-3	1.26E-2
ADP-mm	kg Sb eq	5.20E-5	5.19E-6	2.60E-6	5.98E-5	1.77E-6	8.34E-6	1.94E-8	-2.22E-5	4.78E-5
ADP-f	MJ	1.84E+2	3.09E+0	1.04E+0	1.89E+2	1.05E+0	6.68E+0	5.92E-2	-1.03E+2	9.35E+1
WDP	m3 depriv.	4.04E+0	1.11E-2	5.92E-1	4.64E+0	3.23E-3	1.31E-1	2.75E-4	-2.00E+0	2.78E+0
PM	disease inc.	1.83E-7	1.84E-8	4.67E-9	2.06E-7	6.19E-9	3.47E-8	4.07E-10	-7.51E-8	1.73E-7
IR	kBq U-235 eq	1.56E-1	1.29E-2	2.78E-3	1.71E-1	4.60E-3	2.01E-2	2.76E-4	-6.21E-2	1.34E-1
ETP-fw	CTUe	3.39E+1	2.76E+0	2.54E+0	3.92E+1	8.55E-1	7.60E+0	5.22E-2	-1.49E+1	3.28E+1
HTP-c	CTUh	1.40E-9	8.94E-11	9.46E-11	1.58E-9	3.04E-11	9.03E-10	1.44E-12	-7.11E-10	1.80E-9
HTP-nc	CTUh	3.31E-8	3.01E-9	2.44E-9	3.85E-8	1.02E-9	1.14E-8	3.32E-11	-1.59E-8	3.51E-8
SQP	Pt	7.09E+0	2.68E+0	9.94E-2	9.87E+0	9.01E-1	5.34E+0	1.52E-1	-3.27E+0	1.30E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.02E+0	3.87E-2	5.51E+0	8.57E+0	1.51E-2	3.30E-1	2.34E-3	-1.49E+0	7.43E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.02E+0	3.87E-2	5.51E+0	8.57E+0	1.51E-2	3.30E-1	2.34E-3	-1.49E+0	7.43E+0
PENRE	MJ	1.98E+2	3.28E+0	1.11E+0	2.02E+2	1.12E+0	7.12E+0	6.28E-2	-1.11E+2	9.96E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.98E+2	3.28E+0	1.11E+0	2.02E+2	1.12E+0	7.12E+0	6.28E-2	-1.11E+2	9.96E+1
PET	MJ	2.01E+2	3.32E+0	6.62E+0	2.11E+2	1.13E+0	7.45E+0	6.51E-2	-1.12E+2	1.07E+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	6.16E-2	3.76E-4	1.41E-2	7.60E-2	1.19E-4	3.86E-3	7.31E-5	-3.06E-2	4.95E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.52E-5	7.83E-6	1.67E-6	3.47E-5	2.69E-6	1.09E-5	7.11E-8	-3.03E-5	1.81E-5
NHWD	kg	1.74E-1	1.96E-1	2.10E-3	3.72E-1	6.52E-2	3.29E-1	2.61E-1	-8.38E-2	9.43E-1
RWD	kg	1.67E-4	2.03E-5	3.99E-6	1.91E-4	7.16E-6	2.55E-5	3.87E-7	-5.77E-5	1.66E-4
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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