

Environmental Profile

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

Ecochain v3.5.64



Product: 3053558 - SafeTech RCn Gas Pp 180x16.4 L=12 BC
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
Address: Borrweg 10
39448 Börde-Hakel
Germany
Contact: https://www.wavin.com/en-en

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	2.05E+2	9.05E+0	4.08E+0	2.18E+2	2.69E+0	8.74E+1	1.49E+0	-1.35E+2	1.75E+2
GWP-f	kg CO2 eq	2.04E+2	9.04E+0	3.37E+0	2.17E+2	2.69E+0	8.75E+1	1.49E+0	-1.34E+2	1.74E+2
GWP-b	kg CO2 eq	9.99E-1	3.78E-3	3.39E-1	1.34E+0	1.63E-3	-1.02E-1	1.12E-3	-5.09E-1	7.33E-1
GWP-luluc	kg CO2 eq	6.22E-2	3.46E-3	3.81E-1	4.46E-1	9.51E-4	1.51E-2	2.14E-5	-3.06E-2	4.32E-1
ODP	kg CFC11 eq	1.06E-5	1.98E-6	4.48E-7	1.30E-5	6.19E-7	1.97E-6	3.18E-8	-6.44E-6	9.19E-6
AP	mol H+ eq	7.65E-1	6.80E-2	1.98E-2	8.53E-1	1.53E-2	8.26E-2	7.58E-4	-3.72E-1	5.80E-1
EP-fw	kg P eq	3.41E-3	8.76E-5	7.60E-5	3.57E-3	2.21E-5	4.36E-4	9.85E-7	-1.67E-3	2.36E-3
EP-m	kg N eq	1.28E-1	2.20E-2	4.13E-3	1.54E-1	5.48E-3	2.40E-2	5.36E-4	-6.80E-2	1.16E-1
EP-T	mol N eq	1.43E+0	2.43E-1	4.15E-2	1.71E+0	6.04E-2	2.65E-1	3.08E-3	-7.57E-1	1.28E+0
POCP	kg NMVOC eq	6.80E-1	6.79E-2	1.19E-2	7.60E-1	1.73E-2	8.36E-2	1.21E-3	-3.53E-1	5.09E-1
ADP-mm	kg Sb eq	2.03E-3	2.18E-4	9.70E-5	2.34E-3	6.95E-5	3.27E-4	7.61E-7	-8.68E-4	1.87E-3
ADP-f	MJ	7.22E+3	1.35E+2	3.97E+1	7.39E+3	4.13E+1	2.62E+2	2.32E+0	-4.03E+3	3.67E+3
WDP	m3 depriv.	1.57E+2	4.66E-1	2.21E+1	1.80E+2	1.27E-1	5.15E+0	1.08E-2	-7.83E+1	1.07E+2
PM	disease inc.	7.15E-6	7.77E-7	1.80E-7	8.11E-6	2.43E-7	1.36E-6	1.59E-8	-2.94E-6	6.79E-6
IR	kBq U-235 eq	6.09E+0	5.66E-1	1.09E-1	6.77E+0	1.80E-1	7.89E-1	1.08E-2	-2.43E+0	5.32E+0
ETP-fw	CTUe	1.32E+3	1.18E+2	9.60E+1	1.54E+3	3.35E+1	2.97E+2	2.05E+0	-5.86E+2	1.28E+3
HTP-c	CTUh	5.45E-8	4.00E-9	3.56E-9	6.21E-8	1.19E-9	3.53E-8	5.64E-11	-2.78E-8	7.08E-8
HTP-nc	CTUh	1.29E-6	1.28E-7	9.13E-8	1.51E-6	3.99E-8	4.46E-7	1.30E-9	-6.23E-7	1.38E-6
SQP	Pt	2.77E+2	1.12E+2	3.89E+0	3.92E+2	3.53E+1	2.09E+2	5.95E+0	-1.28E+2	5.15E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.18E+2	1.64E+0	2.05E+2	3.25E+2	5.92E-1	1.29E+1	9.18E-2	-5.83E+1	2.80E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.18E+2	1.64E+0	2.05E+2	3.25E+2	5.92E-1	1.29E+1	9.18E-2	-5.83E+1	2.80E+2
PENRE	MJ	7.74E+3	1.43E+2	4.24E+1	7.93E+3	4.38E+1	2.79E+2	2.46E+0	-4.35E+3	3.90E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.74E+3	1.43E+2	4.24E+1	7.93E+3	4.38E+1	2.79E+2	2.46E+0	-4.35E+3	3.90E+3
PET	MJ	7.86E+3	1.45E+2	2.48E+2	8.25E+3	4.44E+1	2.92E+2	2.55E+0	-4.41E+3	4.18E+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	2.39E+0	1.59E-2	5.25E-1	2.94E+0	4.67E-3	1.51E-1	2.87E-3	-1.20E+0	1.90E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.82E-4	3.30E-4	6.55E-5	1.38E-3	1.06E-4	4.27E-4	2.79E-6	-1.18E-3	7.29E-4
NHWD	kg	6.79E+0	8.11E+0	8.20E-2	1.50E+1	2.56E+0	1.29E+1	1.02E+1	-3.28E+0	3.74E+1
RWD	kg	6.53E-3	8.90E-4	1.57E-4	7.58E-3	2.81E-4	1.00E-3	1.52E-5	-2.26E-3	6.61E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777