

Environmental Profile

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

Ecochain v3.5.64



Product: 3053509 - SafeTech RCn Gas Pp 110x6.6 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	5.28E+1	2.33E+0	9.76E-1	5.61E+1	6.92E-1	2.25E+1	3.83E-1	-3.47E+1	4.50E+1
GWP-f	kg CO2 eq	5.26E+1	2.33E+0	8.13E-1	5.57E+1	6.91E-1	2.25E+1	3.83E-1	-3.46E+1	4.47E+1
GWP-b	kg CO2 eq	2.56E-1	9.72E-4	7.69E-2	3.34E-1	4.20E-4	-2.56E-2	2.88E-4	-1.31E-1	1.78E-1
GWP-luluc	kg CO2 eq	1.60E-2	8.90E-4	8.60E-2	1.03E-1	2.45E-4	3.89E-3	5.51E-6	-7.87E-3	9.92E-2
ODP	kg CFC11 eq	2.72E-6	5.10E-7	1.12E-7	3.34E-6	1.59E-7	5.06E-7	8.17E-9	-1.66E-6	2.36E-6
AP	mol H+ eq	1.97E-1	1.75E-2	4.70E-3	2.19E-1	3.94E-3	2.13E-2	1.95E-4	-9.57E-2	1.49E-1
EP-fw	kg P eq	8.78E-4	2.25E-5	1.81E-5	9.19E-4	5.69E-6	1.12E-4	2.54E-7	-4.31E-4	6.06E-4
EP-m	kg N eq	3.29E-2	5.66E-3	1.02E-3	3.96E-2	1.41E-3	6.18E-3	1.38E-4	-1.75E-2	2.98E-2
EP-T	mol N eq	3.68E-1	6.25E-2	1.01E-2	4.40E-1	1.55E-2	6.81E-2	7.92E-4	-1.95E-1	3.30E-1
POCP	kg NMVOC eq	1.75E-1	1.75E-2	2.91E-3	1.95E-1	4.44E-3	2.15E-2	3.10E-4	-9.08E-2	1.31E-1
ADP-mm	kg Sb eq	5.22E-4	5.62E-5	2.20E-5	6.01E-4	1.79E-5	8.41E-5	1.96E-7	-2.23E-4	4.79E-4
ADP-f	MJ	1.86E+3	3.47E+1	9.68E+0	1.90E+3	1.06E+1	6.74E+1	5.97E-1	-1.04E+3	9.43E+2
WDP	m3 depriv.	4.05E+1	1.20E-1	5.04E+0	4.57E+1	3.26E-2	1.32E+0	2.77E-3	-2.01E+1	2.69E+1
PM	disease inc.	1.84E-6	2.00E-7	4.42E-8	2.09E-6	6.24E-8	3.50E-7	4.10E-9	-7.57E-7	1.75E-6
IR	kBq U-235 eq	1.57E+0	1.46E-1	2.76E-2	1.74E+0	4.64E-2	2.03E-1	2.78E-3	-6.26E-1	1.37E+0
ETP-fw	CTUe	3.40E+2	3.05E+1	2.24E+1	3.93E+2	8.62E+0	7.65E+1	5.26E-1	-1.51E+2	3.28E+2
HTP-c	CTUh	1.40E-8	1.03E-9	8.31E-10	1.59E-8	3.07E-10	9.09E-9	1.45E-11	-7.16E-9	1.81E-8
HTP-nc	CTUh	3.33E-7	3.30E-8	2.10E-8	3.87E-7	1.03E-8	1.15E-7	3.35E-10	-1.60E-7	3.52E-7
SQP	Pt	7.12E+1	2.87E+1	9.96E-1	1.01E+2	9.08E+0	5.38E+1	1.53E+0	-3.29E+1	1.33E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.03E+1	4.23E-1	4.64E+1	7.71E+1	1.52E-1	3.33E+0	2.36E-2	-1.50E+1	6.56E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.03E+1	4.23E-1	4.64E+1	7.71E+1	1.52E-1	3.33E+0	2.36E-2	-1.50E+1	6.56E+1
PENRE	MJ	1.99E+3	3.69E+1	1.03E+1	2.04E+3	1.13E+1	7.18E+1	6.33E-1	-1.12E+3	1.00E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.99E+3	3.69E+1	1.03E+1	2.04E+3	1.13E+1	7.18E+1	6.33E-1	-1.12E+3	1.00E+3
PET	MJ	2.02E+3	3.73E+1	5.67E+1	2.12E+3	1.14E+1	7.51E+1	6.57E-1	-1.13E+3	1.07E+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	6.17E-1	4.09E-3	1.20E-1	7.40E-1	1.20E-3	3.89E-2	7.38E-4	-3.08E-1	4.73E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.53E-4	8.49E-5	1.69E-5	3.55E-4	2.71E-5	1.10E-4	7.17E-7	-3.05E-4	1.88E-4
NHWD	kg	1.75E+0	2.09E+0	2.09E-2	3.86E+0	6.58E-1	3.31E+0	2.63E+0	-8.45E-1	9.61E+0
RWD	kg	1.68E-3	2.29E-4	4.03E-5	1.95E-3	7.22E-5	2.57E-4	3.90E-6	-5.81E-4	1.70E-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