

Environmental Profile

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

Ecochain v3.5.64



Product: 3076881 - SafeTech RCN Gas PP 250x22.7 L=10
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	3.28E+2	1.44E+1	6.60E+0	3.49E+2	4.29E+0	1.40E+2	2.38E+0	-2.15E+2	2.80E+2
GWP-f	kg CO2 eq	3.26E+2	1.44E+1	5.43E+0	3.46E+2	4.29E+0	1.40E+2	2.38E+0	-2.14E+2	2.78E+2
GWP-b	kg CO2 eq	1.60E+0	6.03E-3	5.52E-1	2.15E+0	2.61E-3	-1.63E-1	1.78E-3	-8.13E-1	1.18E+0
GWP-luluc	kg CO2 eq	9.93E-2	5.52E-3	6.21E-1	7.25E-1	1.52E-3	2.41E-2	3.42E-5	-4.88E-2	7.02E-1
ODP	kg CFC11 eq	1.69E-5	3.17E-6	7.18E-7	2.08E-5	9.89E-7	3.14E-6	5.07E-8	-1.03E-5	1.47E-5
AP	mol H+ eq	1.22E+0	1.08E-1	3.20E-2	1.36E+0	2.44E-2	1.32E-1	1.21E-3	-5.94E-1	9.26E-1
EP-fw	kg P eq	5.44E-3	1.40E-4	1.23E-4	5.70E-3	3.53E-5	6.95E-4	1.57E-6	-2.67E-3	3.76E-3
EP-m	kg N eq	2.04E-1	3.51E-2	6.64E-3	2.46E-1	8.75E-3	3.84E-2	8.56E-4	-1.09E-1	1.85E-1
EP-T	mol N eq	2.28E+0	3.88E-1	6.68E-2	2.73E+0	9.64E-2	4.22E-1	4.91E-3	-1.21E+0	2.05E+0
POCP	kg NMVOC eq	1.09E+0	1.08E-1	1.92E-2	1.21E+0	2.76E-2	1.33E-1	1.93E-3	-5.63E-1	8.13E-1
ADP-mm	kg Sb eq	3.24E-3	3.48E-4	1.58E-4	3.75E-3	1.11E-4	5.22E-4	1.22E-6	-1.39E-3	2.99E-3
ADP-f	MJ	1.15E+4	2.15E+2	6.40E+1	1.18E+4	6.59E+1	4.18E+2	3.70E+0	-6.43E+3	5.85E+3
WDP	m3 depriv.	2.51E+2	7.44E-1	3.60E+1	2.88E+2	2.02E-1	8.21E+0	1.72E-2	-1.25E+2	1.71E+2
PM	disease inc.	1.14E-5	1.24E-6	2.89E-7	1.29E-5	3.87E-7	2.17E-6	2.54E-8	-4.70E-6	1.08E-5
IR	kBq U-235 eq	9.72E+0	9.04E-1	1.74E-1	1.08E+1	2.88E-1	1.26E+0	1.73E-2	-3.88E+0	8.48E+0
ETP-fw	CTUe	2.11E+3	1.89E+2	1.56E+2	2.46E+3	5.35E+1	4.74E+2	3.26E+0	-9.35E+2	2.05E+3
HTP-c	CTUh	8.70E-8	6.38E-9	5.78E-9	9.92E-8	1.90E-9	5.64E-8	9.01E-11	-4.44E-8	1.13E-7
HTP-nc	CTUh	2.06E-6	2.05E-7	1.48E-7	2.42E-6	6.38E-8	7.12E-7	2.08E-9	-9.94E-7	2.20E-6
SQP	Pt	4.42E+2	1.78E+2	6.22E+0	6.26E+2	5.63E+1	3.34E+2	9.50E+0	-2.04E+2	8.22E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.88E+2	2.62E+0	3.35E+2	5.25E+2	9.45E-1	2.06E+1	1.46E-1	-9.31E+1	4.54E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.88E+2	2.62E+0	3.35E+2	5.25E+2	9.45E-1	2.06E+1	1.46E-1	-9.31E+1	4.54E+2
PENRE	MJ	1.24E+4	2.29E+2	6.83E+1	1.27E+4	6.99E+1	4.45E+2	3.93E+0	-6.94E+3	6.23E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.24E+4	2.29E+2	6.83E+1	1.27E+4	6.99E+1	4.45E+2	3.93E+0	-6.94E+3	6.23E+3
PET	MJ	1.25E+4	2.31E+2	4.03E+2	1.32E+4	7.09E+1	4.66E+2	4.08E+0	-7.03E+3	6.69E+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	3.82E+0	2.54E-2	8.55E-1	4.70E+0	7.45E-3	2.42E-1	4.58E-3	-1.91E+0	3.04E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.57E-3	5.27E-4	1.05E-4	2.20E-3	1.68E-4	6.81E-4	4.45E-6	-1.89E-3	1.16E-3
NHWD	kg	1.08E+1	1.29E+1	1.31E-1	2.39E+1	4.08E+0	2.05E+1	1.63E+1	-5.24E+0	5.96E+1
RWD	kg	1.04E-2	1.42E-3	2.50E-4	1.21E-2	4.48E-4	1.60E-3	2.42E-5	-3.61E-3	1.06E-2
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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