

Environmental Profile

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

Ecochain v3.5.64



Product: 3053569 - SafeTech RCn Gas Pp 180x10.7 L=12 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	1.39E+2	6.13E+0	2.75E+0	1.48E+2	1.82E+0	5.93E+1	1.01E+0	-9.14E+1	1.19E+2
GWP-f	kg CO2 eq	1.38E+2	6.13E+0	2.27E+0	1.47E+2	1.82E+0	5.94E+1	1.01E+0	-9.11E+1	1.18E+2
GWP-b	kg CO2 eq	6.76E-1	2.56E-3	2.27E-1	9.05E-1	1.11E-3	-6.71E-2	7.58E-4	-3.45E-1	4.95E-1
GWP-luluc	kg CO2 eq	4.22E-2	2.35E-3	2.55E-1	3.00E-1	6.45E-4	1.02E-2	1.45E-5	-2.07E-2	2.90E-1
ODP	kg CFC11 eq	7.17E-6	1.35E-6	3.03E-7	8.82E-6	4.20E-7	1.33E-6	2.15E-8	-4.37E-6	6.23E-6
AP	mol H+ eq	5.19E-1	4.61E-2	1.33E-2	5.78E-1	1.04E-2	5.60E-2	5.14E-4	-2.52E-1	3.93E-1
EP-fw	kg P eq	2.31E-3	5.94E-5	5.12E-5	2.42E-3	1.50E-5	2.95E-4	6.68E-7	-1.14E-3	1.60E-3
EP-m	kg N eq	8.67E-2	1.49E-2	2.79E-3	1.04E-1	3.72E-3	1.63E-2	3.63E-4	-4.61E-2	7.86E-2
EP-T	mol N eq	9.69E-1	1.65E-1	2.80E-2	1.16E+0	4.09E-2	1.79E-1	2.09E-3	-5.13E-1	8.71E-1
POCP	kg NMVOC eq	4.61E-1	4.61E-2	8.05E-3	5.15E-1	1.17E-2	5.67E-2	8.18E-4	-2.39E-1	3.45E-1
ADP-mm	kg Sb eq	1.38E-3	1.48E-4	6.50E-5	1.59E-3	4.72E-5	2.22E-4	5.16E-7	-5.89E-4	1.27E-3
ADP-f	MJ	4.89E+3	9.15E+1	2.68E+1	5.01E+3	2.80E+1	1.78E+2	1.57E+0	-2.73E+3	2.49E+3
WDP	m3 depriv.	1.07E+2	3.16E-1	1.48E+1	1.22E+2	8.59E-2	3.49E+0	7.29E-3	-5.31E+1	7.24E+1
PM	disease inc.	4.85E-6	5.27E-7	1.21E-7	5.50E-6	1.65E-7	9.22E-7	1.08E-8	-2.00E-6	4.60E-6
IR	kBq U-235 eq	4.13E+0	3.84E-1	7.35E-2	4.59E+0	1.22E-1	5.35E-1	7.33E-3	-1.65E+0	3.60E+0
ETP-fw	CTUe	8.97E+2	8.03E+1	6.45E+1	1.04E+3	2.27E+1	2.02E+2	1.39E+0	-3.97E+2	8.70E+2
HTP-c	CTUh	3.70E-8	2.71E-9	2.39E-9	4.21E-8	8.08E-10	2.40E-8	3.83E-11	-1.89E-8	4.80E-8
HTP-nc	CTUh	8.76E-7	8.69E-8	6.12E-8	1.02E-6	2.71E-8	3.02E-7	8.82E-10	-4.22E-7	9.33E-7
SQP	Pt	1.88E+2	7.58E+1	2.64E+0	2.66E+2	2.39E+1	1.42E+2	4.04E+0	-8.68E+1	3.49E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.99E+1	1.11E+0	1.37E+2	2.18E+2	4.01E-1	8.76E+0	6.22E-2	-3.95E+1	1.88E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.99E+1	1.11E+0	1.37E+2	2.18E+2	4.01E-1	8.76E+0	6.22E-2	-3.95E+1	1.88E+2
PENRE	MJ	5.25E+3	9.72E+1	2.86E+1	5.37E+3	2.97E+1	1.89E+2	1.67E+0	-2.95E+3	2.65E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.25E+3	9.72E+1	2.86E+1	5.37E+3	2.97E+1	1.89E+2	1.67E+0	-2.95E+3	2.65E+3
PET	MJ	5.33E+3	9.83E+1	1.66E+2	5.59E+3	3.01E+1	1.98E+2	1.73E+0	-2.99E+3	2.84E+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	1.62E+0	1.08E-2	3.52E-1	1.99E+0	3.17E-3	1.03E-1	1.94E-3	-8.12E-1	1.28E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.66E-4	2.24E-4	4.44E-5	9.34E-4	7.16E-5	2.89E-4	1.89E-6	-8.03E-4	4.94E-4
NHWD	kg	4.61E+0	5.50E+0	5.56E-2	1.02E+1	1.73E+0	8.73E+0	6.93E+0	-2.23E+0	2.53E+1
RWD	kg	4.43E-3	6.03E-4	1.06E-4	5.14E-3	1.90E-4	6.78E-4	1.03E-5	-1.53E-3	4.48E-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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