

Environmental Profile

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

Ecochain v3.5.64



Product: 3053499 - SafeTech RCn Gas Pp 225x13.4 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]

Statement of Confidentiality

This document and supporting material contain confidential and proprietary business information of Wavin - DE - Westeregeln - verified . These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - DE - Westeregeln - verified .

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.18E+2	9.60E+0	4.25E+0	2.32E+2	2.85E+0	9.33E+1	1.58E+0	-1.43E+2	1.87E+2
GWP-f	kg CO2 eq	2.17E+2	9.59E+0	3.51E+0	2.30E+2	2.85E+0	9.34E+1	1.58E+0	-1.43E+2	1.85E+2
GWP-b	kg CO2 eq	1.05E+0	4.01E-3	3.48E-1	1.40E+0	1.73E-3	-1.07E-1	1.19E-3	-5.41E-1	7.56E-1
GWP-luluc	kg CO2 eq	6.66E-2	3.67E-3	3.91E-1	4.61E-1	1.01E-3	1.60E-2	2.27E-5	-3.25E-2	4.46E-1
ODP	kg CFC11 eq	1.13E-5	2.11E-6	4.72E-7	1.38E-5	6.57E-7	2.09E-6	3.37E-8	-6.87E-6	9.75E-6
AP	mol H+ eq	8.15E-1	7.21E-2	2.06E-2	9.08E-1	1.62E-2	8.77E-2	8.04E-4	-3.95E-1	6.18E-1
EP-fw	kg P eq	3.64E-3	9.29E-5	7.91E-5	3.81E-3	2.35E-5	4.62E-4	1.05E-6	-1.78E-3	2.52E-3
EP-m	kg N eq	1.36E-1	2.33E-2	4.33E-3	1.64E-1	5.81E-3	2.55E-2	5.69E-4	-7.22E-2	1.23E-1
EP-T	mol N eq	1.52E+0	2.58E-1	4.34E-2	1.82E+0	6.41E-2	2.81E-1	3.27E-3	-8.04E-1	1.37E+0
POCP	kg NMVOC eq	7.24E-1	7.21E-2	1.25E-2	8.09E-1	1.83E-2	8.88E-2	1.28E-3	-3.75E-1	5.42E-1
ADP-mm	kg Sb eq	2.16E-3	2.32E-4	9.97E-5	2.49E-3	7.38E-5	3.47E-4	8.08E-7	-9.21E-4	1.99E-3
ADP-f	MJ	7.67E+3	1.43E+2	4.15E+1	7.86E+3	4.38E+1	2.78E+2	2.46E+0	-4.28E+3	3.90E+3
WDP	m3 depriv.	1.67E+2	4.95E-1	2.27E+1	1.91E+2	1.34E-1	5.46E+0	1.14E-2	-8.31E+1	1.13E+2
PM	disease inc.	7.62E-6	8.25E-7	1.88E-7	8.63E-6	2.57E-7	1.44E-6	1.69E-8	-3.12E-6	7.22E-6
IR	kBq U-235 eq	6.49E+0	6.01E-1	1.15E-1	7.20E+0	1.91E-1	8.38E-1	1.15E-2	-2.58E+0	5.66E+0
ETP-fw	CTUe	1.41E+3	1.26E+2	9.94E+1	1.64E+3	3.55E+1	3.16E+2	2.17E+0	-6.22E+2	1.37E+3
HTP-c	CTUh	5.81E-8	4.24E-9	3.69E-9	6.60E-8	1.26E-9	3.76E-8	5.99E-11	-2.96E-8	7.53E-8
HTP-nc	CTUh	1.38E-6	1.36E-7	9.41E-8	1.61E-6	4.24E-8	4.74E-7	1.38E-9	-6.61E-7	1.46E-6
SQP	Pt	2.96E+2	1.19E+2	4.12E+0	4.19E+2	3.75E+1	2.22E+2	6.32E+0	-1.36E+2	5.49E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.26E+2	1.75E+0	2.11E+2	3.38E+2	6.28E-1	1.37E+1	9.73E-2	-6.19E+1	2.91E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.26E+2	1.75E+0	2.11E+2	3.38E+2	6.28E-1	1.37E+1	9.73E-2	-6.19E+1	2.91E+2
PENRE	MJ	8.23E+3	1.52E+2	4.44E+1	8.43E+3	4.65E+1	2.96E+2	2.61E+0	-4.62E+3	4.16E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.23E+3	1.52E+2	4.44E+1	8.43E+3	4.65E+1	2.96E+2	2.61E+0	-4.62E+3	4.16E+3
PET	MJ	8.36E+3	1.54E+2	2.55E+2	8.77E+3	4.71E+1	3.10E+2	2.71E+0	-4.68E+3	4.45E+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	2.55E+0	1.69E-2	5.40E-1	3.11E+0	4.95E-3	1.61E-1	3.04E-3	-1.27E+0	2.00E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.05E-3	3.50E-4	6.96E-5	1.47E-3	1.12E-4	4.53E-4	2.96E-6	-1.26E-3	7.79E-4
NHWD	kg	7.26E+0	8.61E+0	8.68E-2	1.60E+1	2.71E+0	1.37E+1	1.08E+1	-3.49E+0	3.97E+1
RWD	kg	6.95E-3	9.44E-4	1.66E-4	8.06E-3	2.98E-4	1.06E-3	1.61E-5	-2.40E-3	7.03E-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