

Environmental Profile

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

Ecochain v3.5.64



Product: 3053465 - SafeTech RCn Gas Pp 32x3 L=100 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: NMD Bepalingsmethode 1.1 (2022)
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



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

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO₂-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO₂-eq]; **EP** = Eutrophication potential [kg PO₄³⁻-eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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 SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	4.77	0.27	0.14	5.17	0.09	2.01	0.03	-2.8	4.49
ADPE	kg Sb-eq	5.61E-4	5.62E-5	2.82E-5	6.45E-4	1.92E-5	9.03E-5	2.10E-7	-2.40E-4	5.15E-4
ADPF	kg Sb-eq	9.48E-1	1.62E-2	5.78E-3	9.70E-1	5.41E-3	3.52E-2	2.95E-4	-5.41E-1	4.70E-1
GWP	kg CO ₂ -eq	5.42E+1	2.20E+0	1.12E+0	5.75E+1	7.36E-1	2.41E+1	3.50E-1	-3.59E+1	4.68E+1
ODP	kg CFC-11-eq	2.67E-6	3.90E-7	1.01E-7	3.16E-6	1.37E-7	4.59E-7	7.08E-9	-1.68E-6	2.08E-6
POCP	kg ethene-eq	5.06E-2	1.33E-3	4.15E-4	5.23E-2	4.42E-4	3.46E-3	7.65E-5	-2.56E-2	3.07E-2
AP	kg SO ₂ -eq	1.76E-1	9.67E-3	4.66E-3	1.91E-1	3.17E-3	1.77E-2	1.56E-4	-8.51E-2	1.27E-1
EP	kg PO ₄ ³⁻ -eq	1.69E-2	1.90E-3	5.91E-4	1.94E-2	6.33E-4	3.11E-3	7.53E-5	-8.33E-3	1.49E-2
HTP	kg 1,4-DB-eq	9.69E+0	9.26E-1	5.64E-1	1.12E+1	3.15E-1	7.20E+0	2.54E-2	-4.69E+0	1.40E+1
FAETP	kg 1,4-DB-eq	2.03E-1	2.70E-2	1.43E-2	2.44E-1	9.23E-3	1.68E-1	3.04E-2	-8.38E-2	3.68E-1
MAETP	kg 1,4-DB-eq	6.35E+2	9.72E+1	4.69E+1	7.79E+2	3.30E+1	3.71E+2	3.01E+1	-2.74E+2	9.39E+2
TETP	kg 1,4-DB-eq	3.58E-2	3.27E-3	4.37E-2	8.28E-2	1.12E-3	2.21E-2	3.83E-5	-1.82E-2	8.78E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.67E+1	2.22E+0	1.16E+0	6.01E+1	7.43E-1	2.42E+1	4.11E-1	-3.72E+1	4.81E+1
GWP-f	kg CO2 eq	5.64E+1	2.22E+0	9.54E-1	5.96E+1	7.42E-1	2.42E+1	4.11E-1	-3.71E+1	4.78E+1
GWP-b	kg CO2 eq	2.77E-1	1.02E-3	9.83E-2	3.77E-1	4.51E-4	-2.97E-2	3.09E-4	-1.41E-1	2.07E-1
GWP-luluc	kg CO2 eq	1.72E-2	8.13E-4	1.11E-1	1.29E-1	2.63E-4	4.17E-3	5.91E-6	-8.44E-3	1.25E-1
ODP	kg CFC11 eq	2.92E-6	4.89E-7	1.25E-7	3.54E-6	1.71E-7	5.43E-7	8.78E-9	-1.78E-6	2.48E-6
AP	mol H+ eq	2.11E-1	1.29E-2	5.65E-3	2.30E-1	4.23E-3	2.28E-2	2.09E-4	-1.03E-1	1.54E-1
EP-fw	kg P eq	9.41E-4	2.24E-5	2.17E-5	9.85E-4	6.11E-6	1.20E-4	2.72E-7	-4.62E-4	6.49E-4
EP-m	kg N eq	3.53E-2	4.53E-3	1.16E-3	4.10E-2	1.51E-3	6.64E-3	1.48E-4	-1.88E-2	3.05E-2
EP-T	mol N eq	3.94E-1	5.00E-2	1.17E-2	4.56E-1	1.67E-2	7.30E-2	8.50E-4	-2.09E-1	3.38E-1
POCP	kg NMVOC eq	1.88E-1	1.43E-2	3.37E-3	2.05E-1	4.77E-3	2.31E-2	3.33E-4	-9.74E-2	1.36E-1
ADP-mm	kg Sb eq	5.61E-4	5.62E-5	2.82E-5	6.45E-4	1.92E-5	9.03E-5	2.10E-7	-2.40E-4	5.15E-4
ADP-f	MJ	1.99E+3	3.34E+1	1.12E+1	2.04E+3	1.14E+1	7.23E+1	6.41E-1	-1.11E+3	1.01E+3
WDP	m3 depriv.	4.35E+1	1.20E-1	6.41E+0	5.00E+1	3.50E-2	1.42E+0	2.97E-3	-2.16E+1	2.98E+1
PM	disease inc.	1.98E-6	1.99E-7	5.05E-8	2.23E-6	6.70E-8	3.75E-7	4.40E-9	-8.13E-7	1.86E-6
IR	kBq U-235 eq	1.68E+0	1.40E-1	3.01E-2	1.85E+0	4.98E-2	2.18E-1	2.99E-3	-6.72E-1	1.45E+0
ETP-fw	CTUe	3.65E+2	2.98E+1	2.75E+1	4.23E+2	9.25E+0	8.21E+1	5.65E-1	-1.62E+2	3.53E+2
HTP-c	CTUh	1.51E-8	9.67E-10	1.02E-9	1.70E-8	3.29E-10	9.76E-9	1.56E-11	-7.69E-9	1.95E-8
HTP-nc	CTUh	3.57E-7	3.26E-8	2.64E-8	4.16E-7	1.10E-8	1.23E-7	3.59E-10	-1.72E-7	3.78E-7
SQP	Pt	7.63E+1	2.90E+1	1.08E+0	1.06E+2	9.75E+0	5.78E+1	1.64E+0	-3.53E+1	1.40E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.25E+1	4.19E-1	5.97E+1	9.26E+1	1.63E-1	3.57E+0	2.53E-2	-1.61E+1	8.03E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.25E+1	4.19E-1	5.97E+1	9.26E+1	1.63E-1	3.57E+0	2.53E-2	-1.61E+1	8.03E+1
PENRE	MJ	2.14E+3	3.55E+1	1.20E+1	2.19E+3	1.21E+1	7.71E+1	6.80E-1	-1.20E+3	1.07E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.14E+3	3.55E+1	1.20E+1	2.19E+3	1.21E+1	7.71E+1	6.80E-1	-1.20E+3	1.07E+3
PET	MJ	2.17E+3	3.59E+1	7.17E+1	2.28E+3	1.23E+1	8.06E+1	7.05E-1	-1.22E+3	1.15E+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	m ³	6.61E-1	4.07E-3	1.52E-1	8.17E-1	1.29E-3	4.18E-2	7.92E-4	-3.31E-1	5.31E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.71E-4	8.47E-5	1.81E-5	3.74E-4	2.91E-5	1.18E-4	7.69E-7	-3.27E-4	1.95E-4
NHWD	kg	1.88E+0	2.12E+0	2.27E-2	4.02E+0	7.06E-1	3.55E+0	2.82E+0	-9.07E-1	1.02E+1
RWD	kg	1.80E-3	2.20E-4	4.33E-5	2.07E-3	7.75E-5	2.76E-4	4.19E-6	-6.24E-4	1.80E-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