

Environmental Profile

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

Ecochain v3.5.64



Product: 3053514 - SafeTech RCn Gas Pp 160x9.5 L=12 BC
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
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Germany
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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	9.27	0.62	0.26	10.15	0.17	3.9	0.05	-5.45	8.83
ADPE	kg Sb-eq	1.09E-3	1.17E-4	5.25E-5	1.26E-3	3.73E-5	1.76E-4	4.09E-7	-4.66E-4	1.01E-3
ADPF	kg Sb-eq	1.84E+0	3.50E-2	1.10E-2	1.89E+0	1.05E-2	6.84E-2	5.74E-4	-1.05E+0	9.17E-1
GWP	kg CO ₂ -eq	1.05E+2	4.81E+0	2.12E+0	1.12E+2	1.43E+0	4.68E+1	6.81E-1	-6.99E+1	9.15E+1
ODP	kg CFC-11-eq	5.18E-6	8.49E-7	1.95E-7	6.23E-6	2.66E-7	8.92E-7	1.38E-8	-3.26E-6	4.14E-6
POCP	kg ethene-eq	9.84E-2	3.12E-3	7.88E-4	1.02E-1	8.59E-4	6.73E-3	1.49E-4	-4.98E-2	6.02E-2
AP	kg SO ₂ -eq	3.43E-1	2.79E-2	8.79E-3	3.80E-1	6.16E-3	3.44E-2	3.03E-4	-1.65E-1	2.55E-1
EP	kg PO ₄ ³⁻ -eq	3.29E-2	4.79E-3	1.13E-3	3.88E-2	1.23E-3	6.05E-3	1.46E-4	-1.62E-2	3.00E-2
HTP	kg 1,4-DB-eq	1.89E+1	2.07E+0	1.06E+0	2.20E+1	6.13E-1	1.40E+1	4.93E-2	-9.12E+0	2.75E+1
FAETP	kg 1,4-DB-eq	3.95E-1	5.82E-2	2.70E-2	4.80E-1	1.79E-2	3.27E-1	5.91E-2	-1.63E-1	7.21E-1
MAETP	kg 1,4-DB-eq	1.24E+3	2.12E+2	8.82E+1	1.54E+3	6.41E+1	7.21E+2	5.86E+1	-5.32E+2	1.85E+3
TETP	kg 1,4-DB-eq	6.96E-2	7.20E-3	8.14E-2	1.58E-1	2.17E-3	4.29E-2	7.45E-5	-3.54E-2	1.68E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.10E+2	4.86E+0	2.20E+0	1.17E+2	1.44E+0	4.70E+1	8.00E-1	-7.24E+1	9.41E+1
GWP-f	kg CO2 eq	1.10E+2	4.85E+0	1.81E+0	1.16E+2	1.44E+0	4.70E+1	8.00E-1	-7.21E+1	9.35E+1
GWP-b	kg CO2 eq	5.35E-1	2.03E-3	1.83E-1	7.20E-1	8.77E-4	-5.28E-2	6.00E-4	-2.74E-1	3.95E-1
GWP-luluc	kg CO2 eq	3.34E-2	1.86E-3	2.06E-1	2.41E-1	5.11E-4	8.11E-3	1.15E-5	-1.64E-2	2.33E-1
ODP	kg CFC11 eq	5.68E-6	1.07E-6	2.41E-7	6.99E-6	3.33E-7	1.06E-6	1.71E-8	-3.46E-6	4.93E-6
AP	mol H+ eq	4.11E-1	3.65E-2	1.07E-2	4.58E-1	8.22E-3	4.44E-2	4.07E-4	-2.00E-1	3.11E-1
EP-fw	kg P eq	1.83E-3	4.70E-5	4.10E-5	1.92E-3	1.19E-5	2.34E-4	5.29E-7	-8.99E-4	1.27E-3
EP-m	kg N eq	6.86E-2	1.18E-2	2.22E-3	8.27E-2	2.94E-3	1.29E-2	2.88E-4	-3.65E-2	6.23E-2
EP-T	mol N eq	7.67E-1	1.30E-1	2.23E-2	9.20E-1	3.24E-2	1.42E-1	1.65E-3	-4.06E-1	6.90E-1
POCP	kg NMVOC eq	3.65E-1	3.65E-2	6.43E-3	4.08E-1	9.27E-3	4.49E-2	6.48E-4	-1.89E-1	2.73E-1
ADP-mm	kg Sb eq	1.09E-3	1.17E-4	5.25E-5	1.26E-3	3.73E-5	1.76E-4	4.09E-7	-4.66E-4	1.01E-3
ADP-f	MJ	3.88E+3	7.25E+1	2.14E+1	3.97E+3	2.22E+1	1.41E+2	1.25E+0	-2.16E+3	1.97E+3
WDP	m3 depriv.	8.46E+1	2.50E-1	1.20E+1	9.68E+1	6.80E-2	2.76E+0	5.78E-3	-4.21E+1	5.76E+1
PM	disease inc.	3.84E-6	4.18E-7	9.67E-8	4.36E-6	1.30E-7	7.30E-7	8.56E-9	-1.58E-6	3.65E-6
IR	kBq U-235 eq	3.27E+0	3.04E-1	5.83E-2	3.63E+0	9.69E-2	4.24E-1	5.81E-3	-1.31E+0	2.85E+0
ETP-fw	CTUe	7.11E+2	6.36E+1	5.18E+1	8.26E+2	1.80E+1	1.60E+2	1.10E+0	-3.14E+2	6.90E+2
HTP-c	CTUh	2.93E-8	2.15E-9	1.92E-9	3.34E-8	6.40E-10	1.90E-8	3.03E-11	-1.50E-8	3.81E-8
HTP-nc	CTUh	6.94E-7	6.88E-8	4.93E-8	8.12E-7	2.15E-8	2.40E-7	6.99E-10	-3.34E-7	7.40E-7
SQP	Pt	1.49E+2	6.00E+1	2.09E+0	2.11E+2	1.90E+1	1.12E+2	3.20E+0	-6.87E+1	2.77E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.33E+1	8.83E-1	1.11E+2	1.75E+2	3.18E-1	6.94E+0	4.93E-2	-3.13E+1	1.51E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.33E+1	8.83E-1	1.11E+2	1.75E+2	3.18E-1	6.94E+0	4.93E-2	-3.13E+1	1.51E+2
PENRE	MJ	4.16E+3	7.70E+1	2.29E+1	4.26E+3	2.35E+1	1.50E+2	1.32E+0	-2.33E+3	2.10E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.16E+3	7.70E+1	2.29E+1	4.26E+3	2.35E+1	1.50E+2	1.32E+0	-2.33E+3	2.10E+3
PET	MJ	4.22E+3	7.79E+1	1.34E+2	4.43E+3	2.38E+1	1.57E+2	1.37E+0	-2.37E+3	2.25E+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	1.29E+0	8.54E-3	2.84E-1	1.58E+0	2.51E-3	8.13E-2	1.54E-3	-6.43E-1	1.02E+0
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.28E-4	1.77E-4	3.52E-5	7.40E-4	5.67E-5	2.29E-4	1.50E-6	-6.36E-4	3.92E-4
NHWD	kg	3.65E+0	4.36E+0	4.41E-2	8.05E+0	1.37E+0	6.91E+0	5.49E+0	-1.76E+0	2.01E+1
RWD	kg	3.51E-3	4.78E-4	8.41E-5	4.07E-3	1.51E-4	5.37E-4	8.15E-6	-1.21E-3	3.55E-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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