Environmental Profile

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

Ecochain v3.5.71

Product:	3038741 - Irish Acorn Pb Elbow 90° W 1"
Unit:	1 piece
Manufacturer:	Wavin - UK - Doncaster - Verified

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	09-02-2023
End of validity:	09-02-2028
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 - UK - Doncaster - 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

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.42E-1	1.02E-2	5.55E-2	8.08E-1	2.58E-3	8.99E-2	1.17E-3	-3.75E-1	5.27E-1
GWP-f	kg CO2 eq	7.41E-1	1.02E-2	5.18E-2	8.03E-1	2.58E-3	9.00E-2	1.17E-3	-3.74E-1	5.23E-1
GWP-b	kg CO2 eq	1.47E-3	5.88E-6	3.71E-3	5.19E-3	1.57E-6	-9.66E-5	1.17E-6	-8.00E-4	4.30E-3
GWP-luluc	kg CO2 eq	3.98E-5	3.71E-6	2.27E-5	6.61E-5	9.14E-7	1.47E-5	2.27E-8	-2.05E-6	7.98E-5
ODP	kg CFC11 eq	8.91E-9	2.34E-9	5.68E-9	1.69E-8	5.95E-10	2.12E-9	3.19E-11	-3.89E-9	1.58E-8
AP	mol H+ eq	3.45E-3	6.82E-5	1.39E-4	3.66E-3	1.47E-5	8.47E-5	7.89E-7	-1.41E-3	2.35E-3
EP-fw	kg P eq	8.36E-6	8.22E-8	3.93E-7	8.84E-6	2.12E-8	4.32E-7	1.04E-9	-3.12E-6	6.17E-6
EP-m	kg N eq	6.24E-4	2.31E-5	2.80E-5	6.75E-4	5.26E-6	2.53E-5	1.49E-6	-2.88E-4	4.19E-4
EP-T	mol N eq	6.36E-3	2.55E-4	2.78E-4	6.89E-3	5.80E-5	2.76E-4	3.14E-6	-2.90E-3	4.33E-3
POCP	kg NMVOC eq	2.44E-3	7.18E-5	8.93E-5	2.60E-3	1.66E-5	8.49E-5	1.14E-6	-1.12E-3	1.59E-3
ADP-mm	kg Sb eq	1.53E-5	2.57E-7	6.24E-7	1.62E-5	6.68E-8	3.16E-7	7.71E-10	-2.10E-6	1.44E-5
ADP-f	MJ	1.04E+1	1.56E-1	7.19E-1	1.12E+1	3.96E-2	2.52E-1	2.34E-3	-5.20E+0	6.32E+0
WDP	m3 depriv.	2.23E-1	4.69E-4	7.57E-3	2.31E-1	1.22E-4	5.45E-3	1.08E-5	-8.99E-2	1.47E-1
PM	disease inc.	2.97E-8	8.98E-10	1.02E-9	3.16E-8	2.33E-10	1.30E-9	1.60E-11	-1.28E-8	2.03E-8
IR	kBq U-235 eq	3.34E-3	6.79E-4	6.38E-4	4.66E-3	1.73E-4	7.64E-4	1.13E-5	-2.58E-4	5.35E-3
ETP-fw	CTUe	1.77E+0	1.25E-1	7.38E-1	2.64E+0	3.22E-2	4.17E-1	4.95E-3	-2.65E-1	2.82E+0
HTP-c	CTUh	1.53E-10	4.55E-12	3.03E-11	1.88E-10	1.15E-12	3.48E-11	6.21E-14	-2.96E-11	1.94E-10
HTP-nc	CTUh	2.45E-9	1.48E-10	6.48E-10	3.25E-9	3.84E-11	4.58E-10	1.99E-12	-6.35E-10	3.11E-9
SQP	Pt	4.79E-1	1.30E-1	1.01E-1	7.10E-1	3.39E-2	1.97E-1	5.95E-3	-2.51E-2	9.21E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.10E-1	2.19E-3	1.50E+0	1.61E+0	5.69E-4	1.28E-2	1.08E-4	-2.48E-2	1.60E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.10E-1	2.19E-3	1.50E+0	1.61E+0	5.69E-4	1.28E-2	1.08E-4	-2.48E-2	1.60E+0
PENRE	MJ	1.12E+1	1.65E-1	7.87E-1	1.21E+1	4.21E-2	2.68E-1	2.49E-3	-5.63E+0	6.80E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.12E+1	1.65E-1	7.87E-1	1.21E+1	4.21E-2	2.68E-1	2.49E-3	-5.63E+0	6.80E+0
PET	MJ	1.13E+1	1.67E-1	2.29E+0	1.37E+1	4.27E-2	2.81E-1	2.59E-3	-5.66E+0	8.40E+0
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	5.30E-3	1.73E-5	2.31E-4	5.55E-3	4.49E-6	1.79E-4	2.92E-6	-2.10E-3	3.64E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.30E-6	3.90E-7	7.20E-7	2.41E-6	1.01E-7	4.29E-7	2.79E-9	-7.18E-7	2.23E-6
NHWD	kg	3.17E-2	9.35E-3	3.36E-3	4.44E-2	2.46E-3	1.25E-2	1.02E-2	-3.28E-3	6.63E-2
RWD	kg	4.11E-6	1.06E-6	5.44E-7	5.71E-6	2.70E-7	9.56E-7	1.55E-8	-3.44E-7	6.61E-6
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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