

Environmental Profile

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

Ecochain v3.5.80



Product: 3072507 - KG Bend 15° DN200 FIN
 Unit: 1 piece
 Manufacturer: Wavin - PL -Buk - Extra products

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 08-06-2023
 End of validity: 08-06-2028
 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 - PL -Buk - Extra products (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]

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Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|----------------------|--------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| GWP-total | kg CO2 eq | 1.71E+0 | 1.17E-1 | 1.45E-4 | 1.82E+0 | 2.93E-2 | 1.45E+0 | 9.10E-3 | -1.29E+0 | 2.02E+0 |
| GWP-f | kg CO2 eq | 3.01E+0 | 1.17E-1 | 1.46E-4 | 3.13E+0 | 2.93E-2 | 8.58E-1 | 9.10E-3 | -1.40E+0 | 2.62E+0 |
| GWP-b | kg CO2 eq | -1.32E+0 | 7.11E-5 | -1.54E-6 | -1.32E+0 | 1.78E-5 | 5.87E-1 | 1.18E-5 | 1.17E-1 | -6.15E-1 |
| GWP-luluc | kg CO2 eq | 1.34E-2 | 4.15E-5 | 1.49E-7 | 1.34E-2 | 1.04E-5 | 3.81E-4 | 2.30E-7 | -1.94E-3 | 1.18E-2 |
| ODP | kg CFC11 eq | 1.31E-6 | 2.70E-8 | 8.26E-12 | 1.33E-6 | 6.75E-9 | 1.07E-7 | 3.46E-10 | -6.50E-7 | 7.97E-7 |
| AP | mol H+ eq | 1.49E-2 | 6.67E-4 | 1.47E-6 | 1.56E-2 | 1.67E-4 | 1.81E-3 | 8.36E-6 | -5.81E-3 | 1.18E-2 |
| EP-fw | kg P eq | 1.34E-4 | 9.64E-7 | 8.24E-9 | 1.35E-4 | 2.41E-7 | 1.28E-5 | 1.06E-8 | -6.04E-5 | 8.80E-5 |
| EP-m | kg N eq | 2.88E-3 | 2.39E-4 | 1.55E-7 | 3.12E-3 | 5.97E-5 | 4.45E-4 | 5.32E-6 | -1.09E-3 | 2.54E-3 |
| EP-T | mol N eq | 3.16E-2 | 2.63E-3 | 1.85E-6 | 3.43E-2 | 6.57E-4 | 4.91E-3 | 3.35E-5 | -1.18E-2 | 2.80E-2 |
| POCP | kg NMVOC eq | 1.06E-2 | 7.52E-4 | 6.28E-7 | 1.14E-2 | 1.88E-4 | 1.46E-3 | 1.15E-5 | -3.97E-3 | 9.06E-3 |
| ADP-mm | kg Sb eq | 2.27E-3 | 3.03E-6 | 1.97E-8 | 2.27E-3 | 7.57E-7 | 7.12E-6 | 8.26E-9 | -2.77E-5 | 2.25E-3 |
| ADP-f | MJ | 6.99E+1 | 1.80E+0 | 1.36E-3 | 7.17E+1 | 4.49E-1 | 4.84E+0 | 2.52E-2 | -3.31E+1 | 4.40E+1 |
| WDP | m3 depriv. | 4.75E+0 | 5.52E-3 | 5.22E-5 | 4.75E+0 | 1.38E-3 | 1.93E-1 | 1.15E-4 | -2.01E+0 | 2.94E+0 |
| PM | disease inc. | 1.38E-7 | 1.06E-8 | 9.08E-12 | 1.49E-7 | 2.64E-9 | 2.22E-8 | 1.74E-10 | -5.14E-8 | 1.23E-7 |
| IR | kBq U-235 eq | 1.68E-1 | 7.86E-3 | 1.02E-6 | 1.76E-1 | 1.96E-3 | 1.73E-2 | 1.17E-4 | -6.95E-2 | 1.25E-1 |
| ETP-fw | CTUe | 8.68E+1 | 1.46E+0 | 1.21E-2 | 8.82E+1 | 3.65E-1 | 3.83E+1 | 4.22E-1 | -2.89E+1 | 9.83E+1 |
| HTP-c | CTUh | 3.25E-9 | 5.20E-11 | 6.17E-13 | 3.30E-9 | 1.30E-11 | 5.14E-10 | 6.64E-13 | -9.27E-10 | 2.90E-9 |
| HTP-nc | CTUh | 7.85E-8 | 1.74E-9 | 1.57E-11 | 8.03E-8 | 4.35E-10 | 1.31E-8 | 8.02E-11 | -2.70E-8 | 6.69E-8 |
| SQP | Pt | 1.29E+2 | 1.54E+0 | 2.24E-3 | 1.31E+2 | 3.84E-1 | 2.93E+0 | 6.48E-2 | -6.32E+1 | 7.10E+1 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 2.63E+1 | 2.58E-2 | 2.40E-2 | 2.63E+1 | 6.45E-3 | 3.51E-1 | 9.67E-4 | -1.10E+1 | 1.57E+1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 2.63E+1 | 2.58E-2 | 2.40E-2 | 2.63E+1 | 6.45E-3 | 3.51E-1 | 9.67E-4 | -1.10E+1 | 1.57E+1 |
| PENRE | MJ | 7.49E+1 | 1.91E+0 | 1.44E-3 | 7.68E+1 | 4.77E-1 | 5.14E+0 | 2.67E-2 | -3.56E+1 | 4.69E+1 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 7.49E+1 | 1.91E+0 | 1.44E-3 | 7.68E+1 | 4.77E-1 | 5.14E+0 | 2.67E-2 | -3.56E+1 | 4.69E+1 |
| PET | MJ | 1.01E+2 | 1.94E+0 | 2.55E-2 | 1.03E+2 | 4.83E-1 | 5.50E+0 | 2.77E-2 | -4.66E+1 | 6.26E+1 |
| 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 | 6.89E-2 | 2.04E-4 | 1.46E-6 | 6.91E-2 | 5.08E-5 | 5.30E-3 | 3.11E-5 | -2.42E-2 | 5.03E-2 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 3.35E-4 | 4.60E-6 | 2.73E-13 | 3.39E-4 | 1.15E-6 | 7.93E-6 | 3.03E-8 | -3.01E-5 | 3.19E-4 |
| NHWD | kg | 4.14E-1 | 1.11E-1 | 1.05E-6 | 5.25E-1 | 2.78E-2 | 1.75E-1 | 1.11E-1 | -1.27E-1 | 7.12E-1 |
| RWD | kg | 1.63E-4 | 1.22E-5 | 1.10E-13 | 1.75E-4 | 3.06E-6 | 1.85E-5 | 1.65E-7 | -6.29E-5 | 1.34E-4 |
| 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