

# Environmental Profile

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

Ecochain v3.5.64



Product: 3011398 - Tegra 400 PP Cross 90° DN160 SW  
 Unit: 1 Piece  
 Manufacturer: Wavin Poland Buk  
 Address: Dobieżyńska 43  
 64-320 Buk  
 Poland  
 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: 19-09-2022  
 End of validity: 19-09-2027  
 Verifier: Martijn van Hövell - SGS Search



This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

Plastic inspection chamber made of polypropylene according to DIN EN 13598-2.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin Poland Buk (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 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	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.42E+0	5.66E-1	9.23E-1	9.91E+0	2.69E-1	2.61E+1	1.30E-1	-1.51E+1	2.14E+1
GWP-f	kg CO2 eq	2.49E+1	5.65E-1	8.85E-1	2.63E+1	2.69E-1	9.58E+0	1.30E-1	-1.50E+1	2.13E+1
GWP-b	kg CO2 eq	-1.65E+1	2.61E-4	3.82E-2	-1.64E+1	1.63E-4	1.65E+1	1.14E-4	-4.21E-2	5.32E-2
GWP-luluc	kg CO2 eq	1.59E-2	2.07E-4	4.26E-4	1.65E-2	9.51E-5	1.50E-3	2.25E-6	-1.03E-2	7.80E-3
ODP	kg CFC11 eq	1.18E-6	1.25E-7	1.00E-7	1.41E-6	6.19E-8	2.04E-7	3.28E-9	-8.95E-7	7.83E-7
AP	mol H+ eq	1.01E-1	3.28E-3	4.53E-3	1.09E-1	1.53E-3	8.76E-3	7.85E-5	-4.95E-2	6.99E-2
EP-fw	kg P eq	4.94E-4	5.70E-6	2.33E-5	5.23E-4	2.21E-6	4.38E-5	1.03E-7	-2.45E-4	3.25E-4
EP-m	kg N eq	1.83E-2	1.15E-3	6.06E-4	2.01E-2	5.48E-4	2.62E-3	5.72E-5	-1.02E-2	1.31E-2
EP-T	mol N eq	2.07E-1	1.27E-2	6.84E-3	2.27E-1	6.04E-3	2.89E-2	3.18E-4	-1.16E-1	1.46E-1
POCP	kg NMVOC eq	9.10E-2	3.64E-3	2.30E-3	9.70E-2	1.73E-3	8.97E-3	1.19E-4	-4.84E-2	5.94E-2
ADP-mm	kg Sb eq	1.06E-3	1.43E-5	5.01E-5	1.12E-3	6.95E-6	3.30E-5	7.91E-8	-1.43E-4	1.02E-3
ADP-f	MJ	8.12E+2	8.52E+0	1.06E+1	8.31E+2	4.13E+0	2.65E+1	2.40E-1	-4.31E+2	4.31E+2
WDP	m3 depriv.	1.61E+1	3.05E-2	1.48E-1	1.63E+1	1.27E-2	5.26E-1	1.27E-3	-7.42E+0	9.42E+0
PM	disease inc.	1.12E-6	5.07E-8	3.14E-8	1.20E-6	2.43E-8	1.39E-7	1.65E-9	-5.85E-7	7.80E-7
IR	kBq U-235 eq	6.61E-1	3.57E-2	1.53E-2	7.12E-1	1.80E-2	8.11E-2	1.11E-3	-2.98E-1	5.14E-1
ETP-fw	CTUe	2.30E+2	7.60E+0	3.32E+1	2.71E+2	3.35E+0	3.23E+1	2.20E-1	-1.15E+2	1.92E+2
HTP-c	CTUh	1.41E-8	2.46E-10	1.67E-9	1.61E-8	1.19E-10	3.78E-9	5.93E-12	-8.09E-9	1.19E-8
HTP-nc	CTUh	2.30E-7	8.31E-9	4.11E-8	2.80E-7	3.99E-9	4.55E-8	1.34E-10	-1.10E-7	2.20E-7
SQP	Pt	1.42E+3	7.39E+0	6.33E+0	1.43E+3	3.53E+0	2.10E+1	6.14E-1	-1.17E+3	2.89E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.43E+2	1.07E-1	6.02E+1	3.03E+2	5.92E-2	1.30E+0	9.35E-3	-1.79E+2	1.26E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.43E+2	1.07E-1	6.02E+1	3.03E+2	5.92E-2	1.30E+0	9.35E-3	-1.79E+2	1.26E+2
PENRE	MJ	8.70E+2	9.05E+0	1.14E+1	8.91E+2	4.38E+0	2.82E+1	2.54E-1	-4.64E+2	4.60E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.70E+2	9.05E+0	1.14E+1	8.91E+2	4.38E+0	2.82E+1	2.54E-1	-4.64E+2	4.60E+2
PET	MJ	1.11E+3	9.16E+0	7.16E+1	1.19E+3	4.44E+0	2.95E+1	2.64E-1	-6.43E+2	5.85E+2
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	2.70E-1	1.04E-3	4.20E-3	2.75E-1	4.67E-4	1.75E-2	2.95E-4	-1.20E-1	1.73E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.32E-4	2.16E-5	1.09E-5	2.64E-4	1.06E-5	4.45E-5	2.89E-7	-1.97E-4	1.23E-4
NHWD	kg	1.79E+0	5.41E-1	2.96E-2	2.36E+0	2.56E-1	1.34E+0	1.05E+0	-9.56E-1	4.05E+0
RWD	kg	6.92E-4	5.60E-5	2.01E-5	7.68E-4	2.81E-5	1.03E-4	1.56E-6	-3.02E-4	5.98E-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



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