

ENVIRONMENTAL PRODUCT DECLARATION

According ISO 14025 and EN 15804



NATURE-LINE BLACK

COMPANY INFORMATION / DECLARATION OWNER

Manufacturer: Save Plastics
Production Location: Save Plastics
Address: Westervoortsedijk 73-FC
NL-6827 AV Arnhem
E-mail: info@saveplastics.nl
Website: www.saveplastics.nl

EPD INFORMATION

Calculation number: EPD-NIBE-20181031-3171
Date of issue: 01-11-2018
End of validity: 01-11-2023
Version NIBE's EPD Application: 1.0
Version database: v2.73 (2018-10-30)
PCR: SBK bepalingmethode v2.0 incl. Wijzigingsblad overgang naar EcolInvent v3.3 of 1th June 2017

VERIFICATION OF THE DECLARATION

CEN standard EN 15804:2012 serves as the core PCR
Independent verification of the declaration. according to EN ISO 14025:2010. ☐ Internal ☐ External

De methodologie en dataverzameling zoals beschreven in dit rapport voldoet aan de eisen van normen ISO 14040/44, ISO 21930 en tevens aan de eisen van de "Bepalingmethode Milieuprestatie Gebouwen en GWW-werken versie 2.0 van november 2014, inclusief wijziging 1 juni 2017"

Daarmee wordt voldaan aan de eisen uit toetsingsprotocol versie 2.0 van november 2014, inclusief wijziging 1 juni 2017.

Third party verifier: Kamel Jansen [reviewer], NIBE

DECLARED UNIT

1 kg of gerecyclede kunststoffen voor de openbare ruimte

Wordt toegepast in verschillende toepassingen zoals: palen, planken, balken en meubilair voor de openbare ruimte

SCOPE OF DECLARATION

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	MND	MND	MND	MND	X	X	X	X	X

(X = included, MND = module not declared)

PRODUCT DESCRIPTION

Nature-line products for urban constructions. The Nature-line is made from Post-Consumer waste plastics, produced into products for Light poles, sheetpiling, timbering, cladding, marina decks, jetty's and parkbenches. The Nature-Line products are an alternative for wood, steel or concrete products.

DESCRIPTION OF THE MANUFACTURING PROCESS

Preparation Process of Save Plastics

The raw material is delivered to HK in the shape of cuboid pressed bales.

At first, the bales, both film, and mixed plastics run through a shredder, where the material gets reduced to small pieces. The raw material which is used is a waste product which has a negative value.

Due to a band-conveyor, the crushed plastics pass a magnetic separator on their way to the wind sifter. At this point, the first two waste streams arise – metal and heavy plastics.

The remaining good material is carried to a dryer by air. A heating machine that is run by natural gas delivers a warm airflow into the dryer. Having humidity eliminated paper parts are the next to be removed. A so-called Mechanical-dry-Cleaner, equipped with a certain kind of paddles, whips the plastic pieces. Paper fabrics, which sit on the plastics, fray and disengage themselves from the plastics.

The dry and clean plastic shreds now arrive at the pelletizer, where they become plastic pellets. These pellets can be fed into an extruder to produce a variety of end products

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Based on economic allocation the cut-off is determined. The impacts of the production process are partially allocated to the waste processing of the plastic in the previous life cycle and partially onto the life cycle of the Nature-line products based on economic allocation.

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RESULTS

Impact category	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C2	C1+C3+C4	D	Total
ADPE	Kg Sb	2.87E-8	2.57E-8	4.10E-7	1.90E-7	2.44E-8	0.00E+0	0.00E+0	0.00E+0	1.95E-8	1.45E-7	-5.66E-9	8.37E-7
ADPF	Kg Sb	1.03E-3	6.71E-5	2.68E-3	4.95E-4	1.51E-4	0.00E+0	0.00E+0	0.00E+0	5.08E-5	8.92E-4	-1.80E-4	5.19E-3
GWP	Kg CO2 Equiv.	6.49E-2	9.06E-3	3.72E-1	6.69E-2	2.02E-2	0.00E+0	0.00E+0	0.00E+0	6.87E-3	1.75E-1	-2.18E-2	6.93E-1
ODP	Kg CFC-11 Equiv.	5.45E-9	1.70E-9	2.37E-8	1.25E-8	1.55E-9	0.00E+0	0.00E+0	0.00E+0	1.28E-9	9.22E-9	-2.02E-9	5.34E-8
POCP	Kg Ethene Equiv.	7.34E-5	5.48E-6	5.83E-5	4.05E-5	5.97E-6	0.00E+0	0.00E+0	0.00E+0	4.15E-6	2.09E-5	-3.73E-6	2.05E-4
AP	Kg SO2 Equiv.	2.54E-4	4.01E-5	6.14E-4	2.96E-4	4.28E-5	0.00E+0	0.00E+0	0.00E+0	3.04E-5	2.20E-4	-2.88E-5	1.47E-3
EP	Kg PO43- Equiv.	1.96E-5	7.88E-6	1.99E-4	5.82E-5	1.06E-5	0.00E+0	0.00E+0	0.00E+0	5.97E-6	6.80E-5	-5.20E-6	3.64E-4
HTP	kg 1.4 DB	6.46E-3	3.93E-3	5.56E-2	2.90E-2	3.52E-3	0.00E+0	0.00E+0	0.00E+0	2.98E-3	2.16E-2	-2.21E-3	1.21E-1
FAETP	kg 1.4 DB	2.18E-4	1.16E-4	1.48E-3	8.54E-4	1.02E-4	0.00E+0	0.00E+0	0.00E+0	8.77E-5	7.12E-4	-6.15E-5	3.51E-3
MAETP	kg 1.4 DB	6.33E-1	4.39E-1	5.57E+0	3.24E+0	3.73E-1	0.00E+0	0.00E+0	0.00E+0	3.33E-1	2.48E+0	-2.54E-1	1.28E+1
TETP	kg 1.4 DB	4.46E-5	3.14E-5	2.30E-3	2.32E-4	1.01E-4	0.00E+0	0.00E+0	0.00E+0	2.38E-5	7.80E-4	-3.85E-5	3.47E-3
Parameter	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C2	C1+C3+C4	D	Total
PERE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERM	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ	3.52E-2	1.93E-3	6.61E-1	1.43E-2	2.61E-2	0.00E+0	0.00E+0	0.00E+0	1.47E-3	2.19E-1	-6.30E-2	8.96E-1
PENRE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRM	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	MJ	2.44E+0	1.50E-1	5.62E+0	1.11E+0	3.28E-1	0.00E+0	0.00E+0	0.00E+0	1.14E-1	1.87E+0	-3.68E-1	1.13E+1
SM	Kg	9.70E-1	0.00E+0	0.00E+0	0.00E+0	2.91E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	9.99E-1
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	M3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
HWD	Kg	3.18E-6	1.05E-6	3.72E-5	7.74E-6	1.83E-6	0.00E+0	0.00E+0	0.00E+0	7.94E-7	1.24E-5	-1.36E-6	6.28E-5
NHWD	Kg	9.88E-4	8.55E-3	1.51E-2	6.31E-2	3.14E-3	0.00E+0	0.00E+0	0.00E+0	6.47E-3	1.10E-2	-6.67E-4	1.08E-1
RWD	Kg	3.06E-6	9.64E-7	2.05E-5	7.12E-6	1.16E-6	0.00E+0	0.00E+0	0.00E+0	7.31E-7	6.82E-6	-6.79E-7	3.97E-5
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.93E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	9.75E-1	1.00E+0
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.76E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.25E-1	2.32E-1
SP	s€	s€ 0,01	s€ 0,00	s€ 0,03	s€ 0,01	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,01	s€ -0,00	s€ 0,06

Impact categories: ADPE=Depletion of abiotic resources-elements | ADPF=Depletion of abiotic resources-fossil fuels | GWP=Global warming | ODP=Ozone layer depletion | POCP=Photochemical oxidants creation | AP=Acidification of soil and water | EP=Eutrophication | HTP=Human toxicity | FAETP=Ecotoxicity, fresh water | MAETP=Ecotoxicity, marine water (MAETP) | TETP=Ecotoxicity, terrestrial

Parameters: PERE=renewable primary energy ex. raw materials | PERM=renewable primary energy used as raw materials | PERT=renewable primary energy total | PENRE=non-renewable primary energy ex. raw materials | PENRM=non-renewable primary energy used as raw materials | PENRT=non-renewable primary energy total | SM=use of secondary material | RSF=use of renewable secondary fuels | NRSF=use of non-renewable secondary fuels | FW=use of net fresh water | HWD=hazardous waste disposed | NHWD=non hazardous waste disposed | RWD=radioactive waste disposed | CRU=Components for re-use | MFR=Materials for recycling | MER=Materials for energy recovery | EE=Exported energy

ADDITIONAL INFORMATION

Allocation

Environmental profile	Explanation of used allocation method
plastics (via residue) - D	Allocation based on economic values. The output side is assumed to be 5% recycling. The Ecolnvent process 'Polyethene, low density, granulate {RER} production Alloc Rec, U' is assumed to be the avoided environmental impact. Emissions, fresh water use, Shreddering, sorting, separation metal, cyclone, agglomerator, extrusion, purification and granulating are included. A lost of 10% is included
Save Plastics C3+C4	Economic allocation is used. 25% of energy use is allocated to C3 Waste Processing
Secondary raw material, Economic allocation = 0	Waste material has no economic value and therefore economic allocation is €0,00