epd-global
Powered by EPD-Norway

Environmental product declaration

in accordance with ISO 14025, based on EN 15804+A2

Vartdalkassen 20 kg standard fish box with lid

VARTDAL PLAST

EPD-Global

Owner of the declaration:
Vartdal Plastindustri AS

Product:
Vartdalkassen 20 kg standard fish box with lid

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 023:2021 Packaging products and services

Program operator:
EPD-Global

Declaration number:
NEPD-14854-15590

Issue date:
06.02.2026

Valid to:
06.02.2031

EPD software:
LCAno EPD generator ID: 137558

General information

Product

Vartdalkassen 20 kg standard fish box with lid

Program operator:

EPD-Global
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-global.com

Declaration number:

NEPD-14854-15590

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 023:2021 Packaging products and services

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Declared unit:

1 pcs Vartdalkassen 20 kg standard fish box with lid

Declared unit with option:

A1-A3, A4, B1, B2, C1, C2, C3, C4, D

Functional unit:

1 pcs Vartdalkassen 20kg standard fish box with lid.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Gaylord K. Booto, Norwegian Institute for Air Research (NILU)

(no signature required)

Owner of the declaration:

Vartdal Plastindustri AS
Contact person: Mounir El'Mourabit
Phone: +47 70 04 83 00
e-mail: vartdal@vartdalplast.no

Manufacturer:

Vartdal Plastindustri AS
Vartdalsstranda 1072
6170 Vartdal, Norway

Place of production:

Vartdal Plastindustri AS production site Vartdal
Vartdalsstranda 1072
6170 Vartdal, Norway

Management system:

ISO 14001, ISO 9001

Organisation no:

970890513

Issue date:

06.02.2026

Valid to:

06.02.2031

Year of study:

2024

Comparability:

EPD of construction products may not be comparable if they do not comply with EN 15804 and seen in a life cycle contest

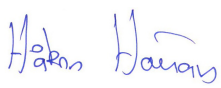
Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global.

Developer of EPD: Ole Morten Brøste

Reviewer of company-specific input data and EPD: Mounir El'Mourabit

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

Vartdalkassen 20 kg standard fish box is made from EPS (expanded polystyrene). EPS consists of 98% air and 2% polystyrene.
Only 100% virgin material is used to produce Vartdalkassen.
Vartdalkassen is used for transporting fresh fish and other food products which require good temperature control during transport. Vartdalkassen 20 kg standard fish box, is the standard fish box used for fish export from Norway by truck. It can hold 22,5 kg of fish and a fully loaded truck carries 891 boxes.

Vartdalkassen comes in many different sizes and it can have space for 6 to 190 liters. All variants have lids tailored to fit the box. Vartdalkassen is approved for direct contact with food products.
All Vartdalkassen variants are produced, stored and transported in clean zones and should be stored in clean zones.
The material used, EPS, is 100% recyclable. The first step of the recycling process is compression. The used boxes are emptied, sometimes washed, crushed and then compressed into blocks. The weight of the blocks is such that the maximum payload of a truck or container can be utilized when transporting the material to the recycling facility. At the recycling facility the blocks are crushed, dried and then extruded into recycled GPPS beads of high quality. Re-GPPS is often used as raw material for recycled EPS or directly in the production of XPS.
Vartdal Plastindustri AS is an approved collector/recycler of EPS by Grønt Punkt / Plastretur and collects used boxes from customers and other suppliers.

Product specification

Materials	Value	Unit
Plastic - Polystyrene expandable (EPS)	95	%
Pentane	5	%

Technical data:

Norway, Europe

Dimensions and capacity per Vartdalkassen 20 kg fish box	
Internal net volume (m3)	0,0434
Total external volume (m3)	0,072
Capacity (kg)	22,5 kg fish + 5 kg ice
Dimensions (mm)	800x400x225
Thickness (mm)	25 - 28
Net packaging unit weight (kg)	0,612
Net weight, fish (kg)	22,5
Net weight. ice (kg)	5
Total weight with fish and ice (kg)	28,11

Market:

Norway and Europe.

Reference service life, product

Not relevant for single-use pakckaging.

Reference service life, number of loops for reusable packaging

Not relevant

LCA: Calculation rules

Declared unit:

1 pcs Vartdalkassen 20 kg standard fish box with lid

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

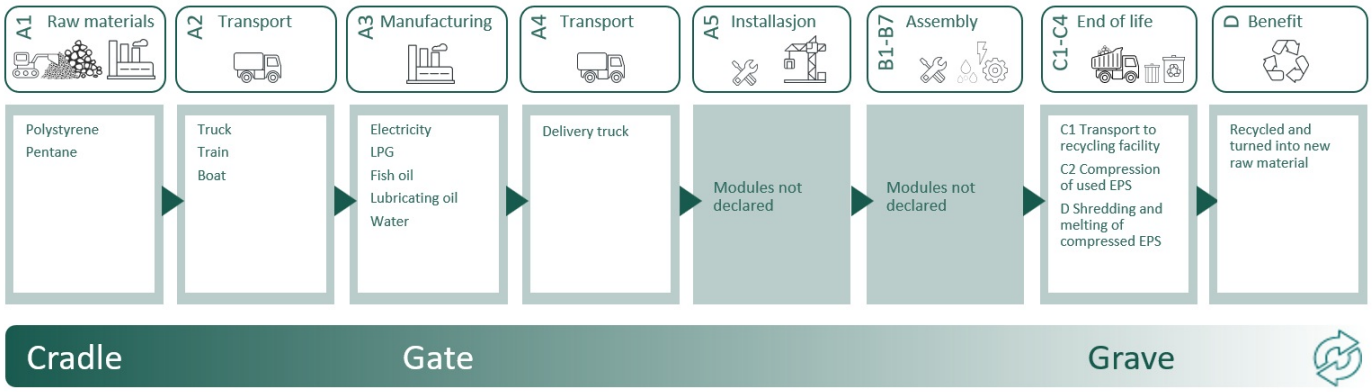
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Plastic - Polystyrene expandable (EPS)	Plastics Europe + ecoinvent 3.6	European average.	2019

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	MND	X	X	MND	MND	MND	MND	MND	X	X	X	X	X

System boundary:



VareID	Box type	Size (mm)	Conversion factor
FT45	20 kg standard	800x400x200 (with lid)	1
FT40	20 kg charter	785x390x210 (with lid)	1,25
FT30	12 kg filet box	600x400x185 (with lid)	0,57
FT19	10 kg box	590x390x195 (with lid)	0,79

Additional technical information:

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (kgkm)	36.7 %	50.00	0.043	l/tkm	2.15

Use (B1)	Unit	Value			
Truck, over 32 tonnes, EURO 5 (kgkm)	kgkm	200.00			

De-construction demolition (C1)	Unit	Value			
Waste treatment, fish boxes, 90% recycled at end-of-life (kg)- Europe	kg	0.612			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, EURO 5 (kgkm)	53.3 %	100.00	0.023	l/tkm	2.30

Waste processing (C3)	Unit	Value			
Recycling of PS	kg	0.5508			
Waste treatment per kg Expanded Polystyrene (EPS), incineration with fly ash extraction (kg) - Europe	kg	0.0612			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Polystyrene (PS), process per kg ashes and residues (kg)	kg	0.002018			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of expandable polystyrene, EPS, granulate	kg	0.5508			
Substitution of electricity (MJ)	MJ	0.1078			
Substitution of thermal energy, district heating (MJ)	MJ	1.63			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact											
	Indicator	Unit	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	2.51E+00	5.00E-03	1.11E-02	0	0.00E+00	5.57E-03	1.95E-01	1.05E-04	-2.08E+00
	GWP-fossil	kg CO_2 -eq	2.51E+00	5.00E-03	1.11E-02	0	0.00E+00	5.56E-03	1.95E-01	1.05E-04	-2.07E+00
	GWP-biogenic	kg CO_2 -eq	6.64E-03	2.07E-06	4.57E-06	0	0.00E+00	2.28E-06	1.35E-06	5.54E-08	-1.36E-02
	GWP-luluc	kg CO_2 -eq	4.84E-04	1.78E-06	3.25E-06	0	0.00E+00	1.62E-06	2.13E-07	1.60E-08	-3.30E-04
	ODP	kg CFC11 -eq	2.07E-07	1.13E-09	2.57E-09	0	0.00E+00	1.29E-09	1.40E-10	1.10E-11	-6.89E-04
	AP	mol H+ -eq	7.02E-03	1.44E-05	4.68E-05	0	0.00E+00	2.34E-05	2.32E-05	3.68E-07	-7.16E-03
	EP-FreshWater	kg P -eq	1.07E-05	3.99E-08	8.48E-08	0	0.00E+00	4.24E-08	1.38E-08	1.41E-09	-3.69E-05
	EP-Marine	kg N -eq	1.78E-03	2.84E-06	1.41E-05	0	0.00E+00	7.03E-06	1.12E-05	1.15E-07	-1.09E-03
	EP-Terrestial	mol N -eq	1.95E-02	3.18E-05	1.55E-04	0	0.00E+00	7.77E-05	1.19E-04	1.31E-06	-1.18E-02
	POCP	kg NMVOC -eq	2.85E-02	1.22E-05	5.00E-05	0	0.00E+00	2.50E-05	2.86E-05	3.61E-07	-6.25E-03
	ADP-minerals&metals[1]	kg Sb-eq	2.60E-06	1.38E-07	1.90E-07	0	0.00E+00	9.50E-08	6.03E-09	5.85E-10	-4.81E-07
	ADP-fossil[1]	MJ	6.36E+01	7.56E-02	1.73E-01	0	0.00E+00	8.65E-02	1.20E-02	9.51E-04	-4.58E+01
	WDP[1]	m^3	4.86E+00	7.31E-02	1.33E-01	0	0.00E+00	6.64E-02	2.65E-02	9.85E-03	-3.48E+00

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment: EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

Not relevant

Additional environmental impact indicators

Indicator		Unit	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
	PM	Disease incidence	5.57E-08	3.06E-10	9.79E-10	0	0.00E+00	4.90E-10	9.80E-11	5.00E-12	-7.09E-08
	IRP[2]	kgBq U235 -eq	9.01E-02	3.30E-04	7.56E-04	0	0.00E+00	3.78E-04	2.00E-05	4.51E-06	-1.11E-03
	ETP-fw[1]	CTUe	2.50E+02	5.60E-02	1.27E-01	0	0.00E+00	6.33E-02	2.88E-02	1.75E-03	-8.78E+00
	HTP-c[1]	CTUh	8.92E-10	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	8.00E-12	0.00E+00	-4.23E-10
	HTP-nc[1]	CTUh	3.58E-08	6.10E-11	1.22E-10	0	0.00E+00	6.10E-11	3.24E-10	3.00E-12	-4.67E-09
	SQP[1]	dimensionless	3.44E+00	5.29E-02	1.98E-01	0	0.00E+00	9.92E-02	1.42E-03	2.62E-03	-9.58E-01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use											
Indicator		**Unit**	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
	PERE	MJ	2.00E+00	1.08E-03	2.18E-03	0	0.00E+00	1.09E-03	3.44E-04	5.54E-05	-1.07E+00
	PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	2.00E+00	1.08E-03	2.18E-03	0	0.00E+00	1.09E-03	3.44E-04	5.54E-05	-1.07E+00
	PENRE	MJ	4.63E+01	7.56E-02	1.73E-01	0	0.00E+00	8.65E-02	1.20E-02	9.51E-04	-4.58E+01
	PENRM	MJ	2.07E+01	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	-2.07E+01	0.00E+00	0.00E+00
	PENRT	MJ	6.70E+01	7.56E-02	1.73E-01	0	0.00E+00	8.65E-02	-2.07E+01	9.51E-04	-4.58E+01
	SM	kg	8.26E-06	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	7.85E-03	3.87E-05	7.62E-05	0	0.00E+00	3.81E-05	9.59E-06	1.38E-06	-1.46E-04
	NRSF	MJ	3.22E-02	1.38E-04	2.55E-04	0	0.00E+00	1.28E-04	0.00E+00	2.19E-04	-4.95E-02
	FW	m^3	5.60E-02	8.08E-06	1.97E-05	0	0.00E+00	9.85E-06	3.38E-05	8.74E-07	-3.67E-02

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Waste

Indicator		Unit	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
	HWD	kg	3.00E-03	3.90E-06	9.47E-06	0	0.00E+00	4.74E-06	0.00E+00	1.73E-03	-8.22E-04
	NHWD	kg	6.98E-02	3.68E-03	1.51E-02	0	0.00E+00	7.53E-03	0.00E+00	8.59E-04	-2.54E-02
	RWD	kg	9.23E-05	5.15E-07	1.18E-06	0	0.00E+00	5.91E-07	0.00E+00	5.74E-09	-9.86E-07

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Output flow

Indicator		Unit	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	5.51E-01	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	6.12E-02	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	1.08E-01	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	1.63E+00	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	0.00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, Norway, medium voltage (kWh)	ecoinvent 3.6	21.18	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Not relevant

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products										
Indicator	**Unit**	A1-A3	A4	B1	B2	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	2.51E+00	5.00E-03	1.11E-02	0	0.00E+00	5.57E-03	1.95E-01	1.08E-04	-2.08E+00

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

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ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.
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ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.
NPCR 023Part B for Packaging products and services, Ver. 1.1, 20.12.2021, EPD Norway.

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ECO PLATFORM EPD VERIFIED	ECO Platform ECO Portal	web: web:	www.eco-platform.org ECO Portal