epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Housegard 2 kg Powder Extinguisher, PE2HR-A, 13A 89B C

GPBM Nordic

The Norwegian EPD Foundation

Owner of the declaration:
GPBM Nordic AB

Product:
Housegard 2 kg Powder Extinguisher, PE2HR-A, 13A 89B C

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
PCR 2010:08 for other special- and general-purpose machinery and parts thereof., ver. 4.0, 04.04.2022. The International EPD® System.

Program operator:
The Norwegian EPD Foundation

Declaration number:
NEPD-11195-11141

Registration number:
NEPD-11195-11141

Issue date:
27.05.2025

Valid to:
27.05.2030

EPD software:
LCAno EPD generator ID: 1009749

General information

Product

Housegard 2 kg Powder Extinguisher, PE2HR-A, 13A 89B C

Owner of the declaration:

GPBM Nordic AB
Contact person: Malin Strelitzsky
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Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-norge.no

Manufacturer:

GPBM Nordic AB
Sörredsvägen 113
41878 Göteborg, Sweden

Declaration number:

NEPD-11195-11141

Place of production:

GPBM Nordic AB - Production site China

, China

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
PCR 2010:08 for other special- and general-purpose machinery and parts thereof., ver. 4.0, 04.04.2022. The International EPD® System.

Management system:

Statement of liability:

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

Organisation no:

556360-0443

Declared unit:

1 pcs Housegard 2 kg Powder Extinguisher, PE2HR-A, 13A 89B C

Issue date:

27.05.2025

Declared unit with option:

A1-A3, A4, A5, B2, B6, C1, C2, C3, C4, D

Valid to:

27.05.2030

Year of study:

2023

Functional unit:

Not applicable.

Comparability:

EPD of construction products may not be comparable if they do not comply with EN 15804 and seen in a building context.

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-Norway'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-Norway, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools

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 Norway. NEPDT151

Developer of EPD: Malin Strelitzsky

Reviewer of company-specific input data and EPD: Merja Pulkkinen

Verification of EPD tool:

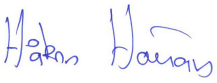
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

2kg ABC Powder Fire extinguisher.

The product is suitable for residential, office, industrial, and automotive use.

Product specification

The product is made with 11% recycled steel

Materials	kg	%
Chemical	2,00	53,85
Ethylene propylene diene monomer (EPDM)	0,085	2,28
Metal - Aluminium alloy	0,15	4,065
Metal - Brass	0,033	0,88
Metal - Steel low alloy	1,40	37,72
Plastic - Polyamide	0,0088	0,23
Plastic - Polytetrafluoroethylene (PTFE)	0,00017	0,0045
Polyvinyl chloride (PVC)	0,035	0,94
Total	3,71	100,00

Packaging	kg	%
Packaging - Cardboard	0,14	92,47
Packaging - Paper	0,01	7,53
Total incl. packaging	3,86	100,00

Technical data:

Standard: EN 3-7
Certifications: CE, Wheelmark

Technical data	
Fire class	ABC
Efficiency class	13A 89B C
Temperature range	-30 °C / +60 °C
Extinguishing agent	SUN ABC Standard
Extinguisher size	2 kg
Discharge time	10 s
Throwing range	3-5 m
Working pressure	15 bar
Cylinder material	Steel
Propellant	Nitrogen
Height	520 mm
Width	150 mm

Market:

Nordic

Reference service life, product

10 years

Reference service life, building or construction works

N/A

LCA: Calculation rules

Declared unit:

1 pcs Housegard 2 kg Powder Extinguisher, PE2HR-A, 13A 89B C

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
Chemical	ecoinvent 3.10	Database	2023
Ethylene propylene diene monomer (EPDM)	ecoinvent 3.6	Database	2019
Metal - Aluminium alloy	ecoinvent 3.6	Database	2019
Metal - Brass	ecoinvent 3.6	Database	2019
Metal - Steel low alloy	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Plastic - Polyamide	ecoinvent 3.6	Database	2019
Plastic - Polytetrafluoroethylene (PTFE)	ecoinvent 3.6	Database	2019
Polyvinyl chloride (PVC)	ecoinvent 3.6	Database	2019

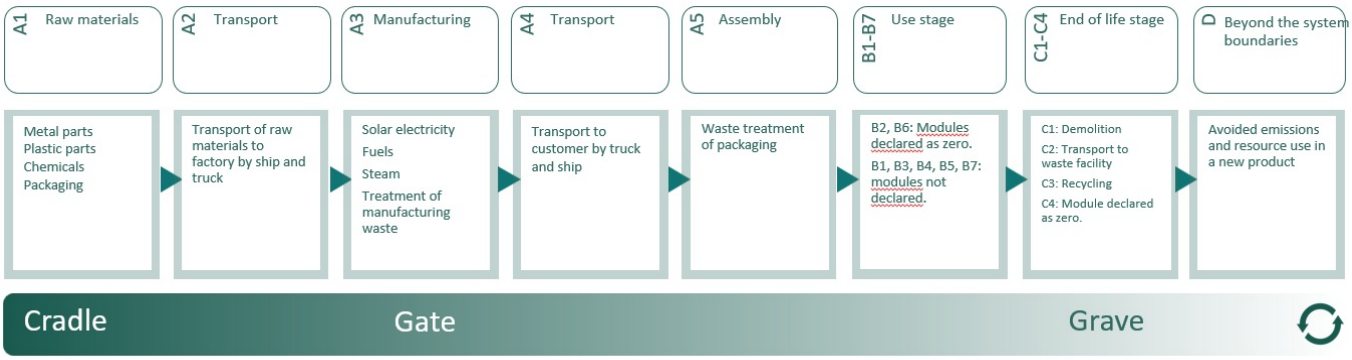
System boundaries (X=included, MND=module not declared, MNR=module not relevant)

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	X	MND	X	MND	MND	MND	X	MND	X	X	X	X	X

System boundary:

This EPD includes A1-D.
B1 - B7 are not relevant.

Modules A1-A4 are included in the analysis. It includes the extraction and production of raw materials, transportation to the factory, the production process itself and transportation to market.



Additional technical information:

Maintenance of fire extinguishers shall be carried out in accordance with national standards and the manufacturer's service instructions.

LCA: Scenarios and additional technical information

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

All materials are reused or recycled at end of life.
Module A4: transport includes the import from China to Sweden and distribution into the nordic market.
Module B2 is declared as zero because the general maintenance only includes visual inspection of the pressure.
Module B6 is declared as zero because there is no operational energy usage.
Module C1 is declared as zero because it is assumed that the disassembly of fire extinguishers are done manually.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Freight, Transoceanic (km)	65,0 %	22000	0,003	l/tkm	66,00
Truck, 16-32 tonnes, EURO 4 (km) - Europe	36,7 %	5	0,044	l/tkm	0,22
Truck, 16-32 tonnes, EURO 4 (km) - Europe	36,7 %	1000	0,044	l/tkm	44,00
Truck, 16-32 tonnes, EURO 4 (km) - World	38,8 %	100	0,045	l/tkm	4,50

Assembly (A5)	Unit	Value			
Waste, packaging, paper printed, to average treatment (kg)	kg	0,011			
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg)	kg	0,13			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	85	0,043	l/tkm	3,66

Waste processing (C3)	Unit	Value			
Steel to recycling (kg)	kg	1,34			
Brass to recycling (kg)	kg	0,033			
Chemical to recycling (kg)	kg	2,00			
Plastics to recycling (kg)	kg	0,12			
Waste treatment per kg Plastic, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,00017			
Aluminium to recycling (kg)	kg	0,15			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues - C4 (kg)	kg	0,0000059			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary steel with net scrap (kg)	kg	1,19			
Substitution of primary Brass with net scrap (kg)	kg	0,022			
Substitution of electricity, in Norway (MJ)	MJ	0,0086			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	0,13			
Substitution, monoammonium phosphate (kg)	kg	2,00			
Substitution of polyamide, nylon 6, granulate (kg)	kg	0,0087			
Substitution, ethylene propylene diene monomer (EPDM) (kg)	kg	0,085			
Substitution of Polyvinylchloride, average, PVC (kg)	kg	0,035			
Substitution of primary aluminium with net scrap (kg)	kg	0,12			

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	A5	B2	B6	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	1,17E+01	1,51E+00	2,51E-01	0	0	0	5,36E-02	4,02E-04	1,69E-08	-5,22E+00
	GWP-fossil	kg CO_2 -eq	1,18E+01	1,51E+00	2,36E-03	0	0	0	5,36E-02	4,02E-04	1,69E-08	-5,19E+00
	GWP-biogenic	kg CO_2 -eq	-1,63E-01	5,09E-04	2,48E-01	0	0	0	2,22E-05	8,74E-09	9,00E-12	5,15E-03
	GWP-luluc	kg CO_2 -eq	2,04E-02	8,03E-04	7,81E-07	0	0	0	1,91E-05	1,63E-09	2,00E-12	-3,45E-02
	ODP	kg CFC11 -eq	1,19E-06	3,32E-07	4,99E-10	0	0	0	1,21E-08	1,00E-12	0,00E+00	-5,53E-05
	AP	mol H+ -eq	7,67E-02	2,96E-02	1,12E-05	0	0	0	1,54E-04	8,82E-08	5,40E-11	-3,84E-02
	EP-FreshWater	kg P -eq	1,24E-03	9,01E-06	1,94E-08	0	0	0	4,28E-07	7,80E-11	0,00E+00	-9,60E-04
	EP-Marine	kg N -eq	1,26E-02	7,61E-03	3,70E-06	0	0	0	3,05E-05	4,22E-08	1,60E-11	-5,37E-03
	EP-Terrestial	mol N -eq	1,48E-01	8,46E-02	4,00E-05	0	0	0	3,41E-04	4,32E-07	1,86E-10	-6,63E-02
	POCP	kg NMVOC -eq	4,73E-02	2,23E-02	1,15E-05	0	0	0	1,31E-04	1,04E-07	5,10E-11	-2,09E-02
	ADP-minerals&metals[1]	kg Sb-eq	1,10E-03	2,52E-05	5,75E-08	0	0	0	1,48E-06	4,40E-11	0,00E+00	-7,31E-04
	ADP-fossil[1]	MJ	1,32E+02	2,10E+01	3,30E-02	0	0	0	8,10E-01	5,53E-05	1,31E-07	-6,37E+01
	WDP[1]	m^3	8,52E+01	1,17E+01	4,19E-02	0	0	0	7,84E-01	3,99E-04	1,68E-06	-5,96E+02

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"
*INA Indicator Not Assessed

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 applicable.

Additional environmental impact indicators											
Indicator		**Unit**	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
	PM	Disease incidence	8,20E-07	5,12E-08	1,65E-10	0	0	0	3,28E-09	0,00E+00	0,00E+00	-3,42E-07
	IRP[2]	kgBq U235 -eq	2,92E-01	9,05E-02	1,41E-04	0	0	0	3,54E-03	1,39E-07	6,48E-10	-1,89E-01
	ETP-fw[1]	CTUe	4,88E+02	1,39E+01	4,41E-02	0	0	0	6,01E-01	8,50E-04	2,88E-07	-1,96E+02
	HTP-c[1]	CTUh	5,05E-08	0,00E+00	1,00E-12	0	0	0	0,00E+00	0,00E+00	0,00E+00	-1,72E-08
	HTP-nc[1]	CTUh	4,57E-07	8,53E-09	5,60E-11	0	0	0	6,56E-10	1,00E-12	0,00E+00	-3,16E-08
	SQP[1]	dimensionless	6,66E+01	8,76E+00	2,22E-02	0	0	0	5,67E-01	1,01E-05	3,90E-07	-1,70E+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"
*INA Indicator Not Assessed

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	A5	B2	B6	C1	C2	C3	C4	D
	PERE	MJ	1,74E+01	2,17E-01	5,44E-04	0	0	0	1,16E-02	3,08E-06	9,14E-09	-9,02E+00
	PERM	MJ	2,30E+00	0,00E+00	-2,30E+00	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	1,97E+01	2,17E-01	-2,30E+00	0	0	0	1,16E-02	3,08E-06	9,14E-09	-9,02E+00
	PENRE	MJ	1,29E+02	2,10E+01	3,30E-02	0	0	0	8,10E-01	5,53E-05	1,31E-07	-6,07E+01
	PENRM	MJ	3,41E+00	0,00E+00	0,00E+00	0	0	0	0,00E+00	-3,41E+00	0,00E+00	-3,06E+00
	PENRT	MJ	1,32E+02	2,10E+01	3,30E-02	0	0	0	8,10E-01	-3,41E+00	1,31E-07	-6,37E+01
	SM	kg	1,87E-01	0,00E+00	0,00E+00	0	0	0	0,00E+00	0,00E+00	0,00E+00	-7,41E-03
	RSF	MJ	4,88E-02	6,83E-03	1,80E-05	0	0	0	4,15E-04	6,61E-08	2,26E-10	3,59E-02
	NRSF	MJ	2,90E+00	4,28E-02	7,44E-05	0	0	0	1,48E-03	0,00E+00	2,14E-08	1,39E+00
	FW	m^3	1,45E-01	1,67E-03	1,56E-05	0	0	0	8,67E-05	4,68E-07	1,21E-10	-6,06E-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"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
	HWD	kg	2,46E-01	1,02E-03	0,00E+00	0	0	0	4,18E-05	0,00E+00	1,58E-07	-1,36E-01
	NHWD	kg	6,05E+00	5,36E-01	1,46E-01	0	0	0	3,94E-02	0,00E+00	1,51E-07	-4,24E+00
	RWD	kg	3,43E+00	1,44E-04	0,00E+00	0	0	0	5,52E-06	0,00E+00	1,00E-12	-3,43E+00

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"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	1,04E-02	0,00E+00	1,36E-01	0	0	0	0,00E+00	3,66E+00	0,00E+00	-9,97E-04
	MER	kg	2,78E-01	0,00E+00	7,69E-04	0	0	0	0,00E+00	1,70E-04	0,00E+00	-1,20E-04
	EEE	MJ	1,68E-01	0,00E+00	8,35E-03	0	0	0	0,00E+00	2,61E-04	0,00E+00	-7,57E-04
	EET	MJ	2,53E+00	0,00E+00	1,26E-01	0	0	0	0,00E+00	3,95E-03	0,00E+00	-1,15E-02

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"
*INA Indicator Not Assessed

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	6,77E-02

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, photovoltaic, single-Si panel - China (kWh)	ecoinvent 3.6	93,97	g CO2-eq/kWh

Dangerous substances

The product contains dangerous substances, more than 0,1% by weight, given by the REACH Candidate List, see table:

Name	CASNo	Amount
Lead	ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures, ISO 14044:2006 Environmental m	>0,1

Indoor environment

Not applicable.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products											
Indicator	**Unit**	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	1,14E+01	1,51E+00	2,36E-03	0	0	0	5,36E-02	4,02E-04	1,69E-08	-5,84E+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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EN 50693:2019 Product category rules for life cycle assessments of electronic and electrical products and systems
General Programme Instructions for The Norwegian EPD Foundation/EPD-Norge (www.epd-norge.no) version 3:2019 updated 25/05/23.

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