Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:











National Guard Primer For Cement Clear

Manufactured By : National Paints Factories Co. Ltd.

Program: EFI Programme

EPD Reference number : 250406EPD CR:P-3100

Issue date : 25.04.2025 Valid until : 24.04.2030

Geographical Scope : Manufactured in Sharjah (UAE)

and distributed globally.







EPD Owner:	Natioanl Paints Factories Co. Ltd.	
Address :	Industrial Area 13 Maleha Road P.O. Box 5822 Sharjah (United Arab Emirates)	NATIONAL
Website : Email :	www.nationalpaints.com mehmood.khan@nationalpaints.com	PAINTS

Accountabilities for PCR, LCA and independent, third-party verification

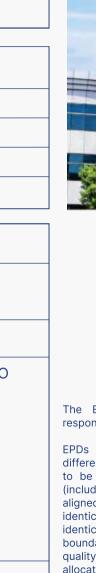
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

PCR review was conducted by: The Environmental Footprint Institute

PCR P-3100: Construction products in general (EN15804)

Product Category Rules (PCR)







Life Cycle Assessment (LCA) LCA accountability: Mehmood Khan and CQES International LLC □ Internal Verification **☑** Third Party Verification Independent verification of the declaration and data, according to ISO 14025:2006 and ISO 14040: ☑ EPD internal verification process ☐ EPD verification by EPD process certification Third Party Verifier: Mr. Iván Jiménez Accredited by: The Environmental Footprint Institute Procedure for follow-up of data during EPD validity involves Internal verifier: Yes. □ No

The EPD owner has the sole ownership, liability and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programs may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fullyaligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison.



National Paints is a third-generation business built on a family entrepreneurial vision to offer the highest quality coats and paints for the decorative and industrial sectors. Founded by the Sayegh family in 1969, in Jordan, National Paints has since accelerated its growth by opening factories in Abu Dhabi, Egypt, Romania, Oman, India, and Saudi Arabia. Our factory in Sharjah, United Arab Emirates, which opened in 1977, is the largest in the region contributing to our annual production of 500,000 tons of paint.

We operate in 8 business divisions: Decorative, Automotive, Marine & Yacht coating, Powder Coating, Protective Coating, Floor coating, Wood Coating, and Construction Chemicals. National Paints is currently one of the largest paint consortiums in the Middle East and ranks 16th among the top 50 coating companies in EMEA.

We always keep an eye on the latest trends and put our commitment to innovation and sustainability as a priority. This has led us to increase our investment in research and development, develop solutions to reduce health and environmental risks, and provide exceptional service to our customers.



Product-related or management system-related certifications:

The following certifications are recognized under product-related or management system-related certifications:



















National Paints Commitment to Sustainability

National Paints is committed to sustainable practices through both backward and forward integration in its manufacturing processes. Our core sustainability initiatives include:

- Responsible Sourcing: Procuring raw materials from the nearest sources to minimize transportation impact and reduce emissions and using biogenic packaging and raw materials when available.
- Waste Reduction: Utilizing recycled materials and optimizing waste management to lower environmental impact and carbon footprint.

Name and location of production site(s): National Paints, Industrial Area 13, Sharjah (UAE)



National Guard Primer For Cement Clear

National Guard Primer for Cement Clear is a solvent based two pack, low viscosity, epoxy based primer with excellent adhesion and penetration for concrete substrates.

Technical features at a glance

- Color & Appearance
- Specific Gravity
- Volume Solids (ASTM D2697)
- Wet Film Thickness (WFT)
- Dry Film Thickness (DFT)
- Theoretical Spreading Rate
- Mixing Ratio

Clear 0.95 ± 0.02 34±2% 90-120 microns/coat

30-40 microns/coat

11.33-8.5 m2/liter

By volume, Base to Hardener 4:1

Advantages and Intended use

- Easy to apply by roller, brush.
- Improves adhesion of subsequent top coats.
- Highly penetrative, seals cavities and pinholes (minimizes outgassing)
- Excellent Wetting properties.

Surface Preparation

- All concrete surfaces must be sound and clean, free from oil, grease, dust and other contaminants.
- Laitance deposits should be removed using captive blasting, mechanical scrabbling, or grinding.
- Surface moisture content should be less than 5%.
- Concrete floor should be older than 28 days.

Application

Brush/ Roller Spray -Conventional and Airless

Airless Spray Requirements Pressure: 2200 -2500 psi Nozzle Size: 0.015" -0.018"

Cleaning solvent/Thinner: National Epoxy thinner

Dilution: 0 to 10% depends on application.



Finish Clear







Highly Penetrative Improves Adhesion





Application Tools Brush or Roller



Declared Unit:

The Declared Unit of the Life Cycle Assessments is one kilogram of National Guard Primer for Cement Clear plus the proportional part of packaging. All direct and indirect environmental impacts, as well as the use of resources, are reported referred to this unit. This EPD presents the environmental impacts associated to the LCA of the analysed products.

Time Representativeness: January 2024 to December 2024

Database(s) and LCA software used:

Version 3.17.4.0 of software Air.e LCA™ with Ecoinvent™ 3.10.0 database has been used for LCA modeling and impacts calculations. EN15804 system model is used in this LCA.

Electricity usage in A3:

A specific dataset with the Life Cycle Inventory (LCI) corresponding to the electricity mix in United Arab Emirates, has been used for this LCA. 0.6279 kg CO2eq/kWh (GWP-GHG),

Cut-off rules:

More than 99% of the materials and energy consumption have been included. The Polluter Pays Principle and the Modularity Principle have been followed.

Allocation method:

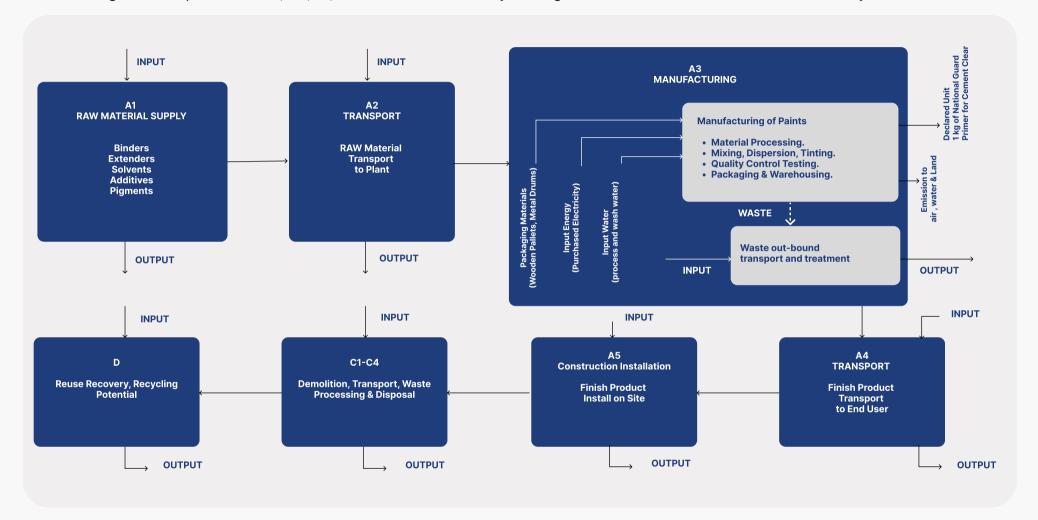
The allocation of common inputs and outputs follows the general allocation rule, which represents the proportion of each specific product's production relative to the total production, expressed in kilograms. Generic process data for the production of input materials were utilized.

Declared Unit Conversion:

Name	Value	Unit
DU	1	Kg
Conversion factor / m2	10.42	meter square (approx)

Description of system boundaries:

Cradle to gate with options (A1-A3, A4,A5,C1-C4 and D). The life cycle stages B1-B7 were excluded from the LCA study.



The Life Cycle Assessment (LCA) results and associated environmental impacts presented in this document reflect the total production of paint products. These results encompass all formulations and production volumes, capturing the full environmental footprint of the paint manufacturing process. Paint is a liquid or mastic material composed of binders, pigments, solvents, and additives, designed to form a protective or decorative coating upon application and drying. The LCA considers the standard raw materials, manufacturing techniques, and performance characteristics that define the overall environmental profile of the paint production process.

System boundaries

This EPD covers all product stages from "cradle to gate with options," meaning this LCA includes Production stage A1-A3, Transportation A4, Installation A5, End-of-life stages C1-C4, and Resource recovery stage D in accordance with EN 15804 + A2/AC:2021.

The system boundaries of this environmental study encompass not only the processes controlled by national paints but also include upstream and downstream activities, such as fuel extraction, material production, and electricity generation, which are not directly managed by the company.

All related direct and indirect environmental impacts associated with these elements have been calculated and are included in the LCAs within this EPD.

Possible scopes of the LCA defined in the European standard EN 15804:2012+A2:2019 are:

	Produ	ct Stage	Э		on Process age	Use Stage	End	of life	stage		Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use, maintenance, repair, replacement, refurbishment, operational energy and water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling-potential
Module	A1	A2	А3	A4	A 5	B1-B7	C1	C2	СЗ	C4	D
Modules declared	Х	Х	Х	Х	Х	ND	Х	Х	Х	Х	Х
Geography	UAE GLO	UAE GLO	UAE	UAE GLO	UAE GLO		UAE GLO	UAE GLO	UAE GLO	UAE GLO	UAE GLO

^{*} X - Included

Core Processes

A1-Raw Material Supply: This stage covers the extraction, processing, and upstream transport of raw materials used in paint production, including binders, pigments, solvents, and additives. It accounts for the environmental impacts associated with sourcing and preparing these materials prior to their arrival at the manufacturing facility.

A2 - Transport: Transport is relevant for delivery of raw materials and other materials to the plant and the transport of materials within the plant. Transport of raw materials to production site is taken as the weight average values for transport from supplier for the year of 2024.

- Vehicle used for transport 3.5-7.5t & >32t trucks, Euro 5
- Vehicle capacity 3.5 -7.5 tons and 25 tons
- Fuel type and consumption Diesel, 0.38 litres per km
- Capacity utilization (including empty poly cartages) 50% as assumed in Ecoinvent
- Bulk transportation Mass of the transported product.

A3 - Manufacturing: Manufacturing processes include the preparation of raw materials, pre-mixing, dispersion, tinting, quality inspection, filtration, filling, packaging, and storage. These operations are powered by electricity sourced from the UAE grid mix (Ecoinvent, Medium Voltage).

A4 - Transport: This stage involves the transportation of products to the construction site/customer locations via road and sea transport.

A5 - Installation: This stage includes the transport and end-of-life treatment of packaging materials, such as the disposal or recycling of wooden pallets and metal cans. VOC emissions and paint dilution during application are considered in this assessment, as the product is solvent-based with VOC content (<200 g/L).

C1 - De-Construction/demolition: A1-Raw Material Supply: This stage involves the removal of paint coatings at the end of the building or product's life. Due to the minimal impact and effort required to remove water-based paints, environmental loads associated with this stage are considered negligible.

C2 - Waste Transport: This stage assumes that the entire waste paint is transported to a nearby waste treatment facility using a Euro 6 truck. The average distance to the facility is considered to be 50 km.

C3 Waste Processing: This Stage assumes that none of the produced paint is passed on to waste processing. Hence, the environmental impact of this module is set to be zero.

C4 Disposal: In this stage, paint waste, typically collected along with the substrate in construction materials, is processed. Module C4 assumes that 100% of the paint applied to the substrate is transported to a landfill for disposal.

D. Benefits and Loads: Since paint applied to buildings is not considered for recycling, the environmental impacts in module D are negligible. There are no significant benefits or loads from recycling or material recovery for the paint at the end of life.

Content declaration

The following list includes the main components and materials used in the manufacturing and packaging of National Guard Primer for Cement Clear.

Material Used	Percentage (%)
Extenders	40-45
Binders	20-25
Solvents	20-25
Pigments	5-10
Additives	1.5-2.5
Total	100%

Packaging Material	Weight kg/DU	Weight % (Versus the Product)	Weight biogenic carbon, kg C/kg of packaging material
Metal Drums	7.01E-02	7.01E+00	0.00E+00
Wooden Pallets	3.57E-02	3.57E+00	4.45E-01

Dangerous substances from the candidate list of SVHC for Authorisation:

Dangerous substances from the candidate list of SVHC for Authorisation:	EC No.	CAS No.	Weight (%) per declared unit
None			
None			

Biogenic carbon content:

Biogenic carbon content	Kg C/Declared Unit
Biogenic carbon content in product	0.00E+00 kg C
Biogenic carbon content in accompanying packaging	1.59E-02 kg C



Manufacturing Process:

The manufacturing process for paint typically involves several key stages to ensure product quality and environmental compliance. Raw materials such as pigments, resins, solvents, and additives are first measured and mixed to form a homogeneous blend. Once the desired consistency is achieved, the paint is filtered and adjusted for viscosity, colour, and other performance characteristics. Finally, it is packaged into containers for distribution. Throughout the process, energy and water are consumed, and emissions and waste are managed in accordance with environmental standards, forming a critical part of the Environmental Product Declaration (EPD).



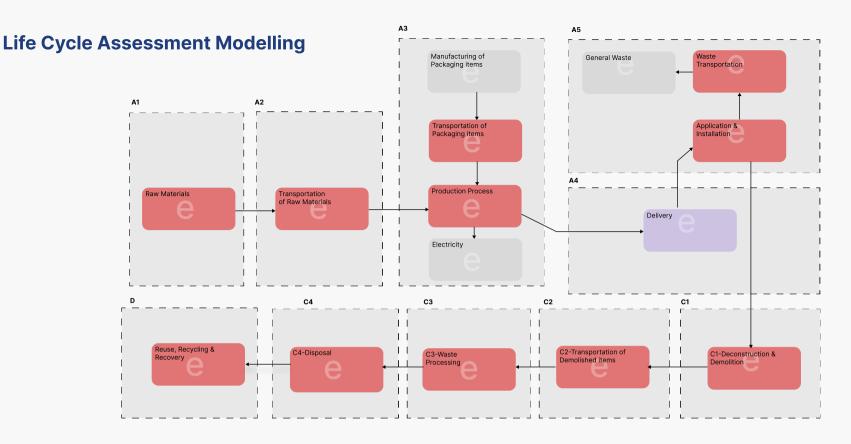
Technical information:

For more technical information about the National Guard Primer for Cement Clear, please refer to the product TDS, MSDS and Catalogue.

Data quality:

The environmental impact has been calculated based on the international standards established for the development of environmental product declarations, such as ISO14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, UNE-EN 15804:2012+A2:2019 and the Product Category Rules PCR 3100.

Data has been collected in 2024 and is representative of that year. Data for raw material supply, transport to the manufacturing plant and production (A1-A3) is based on specific consumption data for the factory at Sharjah. Generic background datasets were used for the upstream and downstream processes. Air.e LCA Version 3.17.4.0 software was used to prepare the life cycle analysis together with the Ecoinvent 3.10.0 database. Characterization factors from EN 15804:2012+A2:2019.



Environmental Performance

Potential Environmental Impacts

In the following tables, the environmental performance of the declared units "One kilogram of Product (National Guard Primer for Cement Clear)" is presented for the National Paints. the product totalized and for every sub-phase of the life cycles. During the assessment it was not evident to distinguish the differences in the consumption of electricity, water, diesel, raw material and chemicals during the manufacturing process of the paints. Hence, the calculation is based on total production vs total consumption against production of the product. This EPD values are applicable to specifically paints.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

EN 15804+ A2 disclaimers for Abiotic depletion and Water use indicators and all optional indicators except Particulate matter and lonizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Core Environmental Impact Indicators

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
Climate change (GWP) –fossil	kg CO2e	2.96E+00	1.15E-01	2.54E-02	1.60E-01	5.05E-03	0.00E+00	0.00E+00	9.78E-03	0.00E+00	5.27E-01	3.80E+00	0.00E+00
Climate change (GWP) -biogenic	kg CO2e	6.74E-03	2.92E-05	2.19E-03	2.45E-05	3.49E-02	0.00E+00	0.00E+00	1.50E-06	0.00E+00	2.05E-04	4.41E-02	0.00E+00
Climate change (GWP) -LULUC	kg CO2e	2.61E-03	6.24E-05	4.54E-05	6.36E-05	1.73E-06	0.00E+00	0.00E+00	3.89E-06	0.00E+00	1.02E-04	2.89E-03	0.00E+00
Climate change (GWP) – total	kg CO2e	2.97E+00	1.15E-01	2.76E-02	1.60E-01	3.99E-02	0.00E+00	0.00E+00	9.79E-03	0.00E+00	5.27E-01	3.85E+00	0.00E+00
Ozone depletion	kg CFC-11e	2.15E-07	1.80E-09	3.97E-10	2.23E-09	4.90E-11	0.00E+00	0.00E+00	1.37E-10	0.00E+00	4.00E-09	2.24E-07	0.00E+00
Acidification	mol H+e	1.86E-02	7.62E-04	1.26E-04	5.33E-04	2.13E-05	0.00E+00	0.00E+00	3.26E-05	0.00E+00	6.43E-04	2.07E-02	0.00E+00
Eutrophication, aquatic freshwater	kg Pe	9.28E-04	8.84E-06	4.75E-06	1.25E-05	3.01E-05	0.00E+00	0.00E+00	7.67E-07	0.00E+00	2.91E-05	1.01E-03	0.00E+00
Eutrophication, aquatic marine	kg Ne	2.89E-03	2.43E-04	3.79E-05	1.74E-04	1.63E-04	0.00E+00	0.00E+00	1.06E-05	0.00E+00	1.64E-04	3.68E-03	0.00E+00
Eutrophication, terrestrial	mol Ne	3.05E-02	2.62E-03	3.86E-04	1.88E-03	6.18E-05	0.00E+00	0.00E+00	1.15E-04	0.00E+00	1.73E-03	3.73E-02	0.00E+00
Photochemical ozone formation	kg NMVOCe	1.12E-02	8.41E-04	1.43E-04	7.42E-04	2.48E-02	0.00E+00	0.00E+00	4.54E-05	0.00E+00	6.90E-04	3.84E-02	0.00E+00
Abiotic depletion, minerals & metals	kg Sbe	3.15E-05	3.45E-07	1.36E-07	5.12E-07	6.84E-09	0.00E+00	0.00E+00	3.13E-08	0.00E+00	6.07E-07	3.32E-05	0.00E+00
Abiotic depletion of fossil resources	MJ	5.82E+01	1.70E+00	3.78E-01	2.36E+00	4.91E-02	0.00E+00	0.00E+00	1.45E-01	0.00E+00	2.59E+00	6.54E+01	0.00E+00
Water use	m³ W.ed	2.23E+00	9.06E-03	7.19E-03	1.22E-02	-1.70E-02	0.00E+00	0.00E+00	7.49E-04	0.00E+00	4.05E-02	2.29E+00	0.00E+00

Use of Natural Resources

Impact Category	UNIT	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
Renewable PE used as energy	MJ	2.90E+00	2.94E-02	-6.43E-01	0.00E+00	0.00E+00	1.80E-03	0.00E+00	6.38E-02	2.35E+00	0.00E+00
Renewable PE used as materials	MJ	5.10E-01	0.00E+00	6.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E+00	0.00E+00
Total use of renewable PE	MJ	3.41E+00	2.94E-02	1.05E-03	0.00E+00	0.00E+00	1.80E-03	0.00E+00	6.38E-02	3.50E+00	0.00E+00
Non-renew. PE used as energy	MJ	4.51E+01	2.24E+00	-3.75E-01	0.00E+00	0.00E+00	1.37E-01	0.00E+00	-5.72E+00	4.14E+01	0.00E+00
Non-renew. PE used as materials	MJ	1.22E+01	0.00E+00	4.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E+00	2.08E+01	0.00E+00
Total use of non- renewable PE	MJ	5.73E+01	2.24E+00	4.66E-02	0.00E+00	0.00E+00	1.37E-01	0.00E+00	2.46E+00	6.21E+01	0.00E+00
Use of secondary materials	Kg	4.68E-02	1.01E-03	1.75E-05	0.00E+00	0.00E+00	6.16E-05	0.00E+00	3.29E-03	5.12E-02	0.00E+00
Use of renewable secondary fuels	MJ	2.11E-02	1.28E-05	2.74E-07	0.00E+00	0.00E+00	7.84E-07	0.00E+00	2.01E-05	2.12E-02	0.00E+00
Use of non-renew. Secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m3	5.34E-02	2.99E-04	-3.94E-04	0.00E+00	0.00E+00	1.83E-05	0.00E+00	9.75E-04	5.43E-02	0.00E+00



Impact Category	UNIT	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
Particulate matter	Incidence	1.59E-07	1.03E-08	2.89E-10	0.00E+00	0.00E+00	6.31E-10	0.00E+00	7.64E-09	1.78E-07	0.00E+00
ionizing radiation, human	kBq U234e	1.48E-01	1.84E-03	2.48E-02	0.00E+00	0.00E+00	1.13E-04	0.00E+00	3.99E-03	1.79E-01	0.00E+00
Eco-toxicity (freshwater)	CTUe	6.12E+01	5.90E-01	1.02E+00	0.00E+00	0.00E+00	3.61E-02	0.00E+00	1.58E+01	7.87E+01	0.00E+00
Human toxicity, cancer effects	CTUe	3.00E-09	8.29E-10	1.56E-11	0.00E+00	0.00E+00	5.07E-11	0.00E+00	6.01E-10	4.49E-09	0.00E+00
Human toxicity, non- cancer	CTUe	4.45E-08	1.40E-09	5.81E-09	0.00E+00	0.00E+00	8.57E-11	0.00E+00	1.41E-09	5.32E-08	0.00E+00
Land use related impacts/soil	Dimensionless	1.80E+01	1.34E+00	7.17E-02	0.00E+00	0.00E+00	8.18E-02	0.00E+00	1.02E+00	2.05E+01	0.00E+00

EN 15804+A2 disclaimer for lonizing radiation, human health. 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.

Additional Environn	Additional Environmental Impact Indicators										
Impact Category	UNIT	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
GEP-GHG	kg CO2e	3.15E+00	1.62E-01	4.87E-01	0.00E+00	0.00E+00	9.88E-03	0.00E+00	5.29E-01	4.33E+00	0.00E+00

This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013) This indicator Is almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Impact Category	UNIT	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
Hazardous waste	Kg	1.20E-01	3.93E-03	1.20E-04	0.00E+00	0.00E+00	2.40E-04	0.00E+00	1.62E-01	2.87E-01	0.00E+00
Non-hazardous waste	Kg	4.49E+00	7.38E-02	5.39E-01	0.00E+00	0.00E+00	4.52E-03	0.00E+00	3.33E+00	8.44E+00	0.00E+00
Radioactive waste	Kg	3.72E-05	4.51E-07	1.90E-08	0.00E+00	0.00E+00	2.76E-08	0.00E+00	1.02E-06	3.88E-05	0.00E+00

Impact Category	UNIT	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total	D
Components for reuse	Kg	0.00E+00									
Materials for recycling	Kg	6.80E-02	1.65E-05	7.05E-07	0.00E+00	0.00E+00	1.01E-06	0.00E+00	2.40E-05	6.81E-02	0.00E+00
Materials for energy recovery	Kg	1.69E-05	1.45E-07	3.13E-09	0.00E+00	0.00E+00	8.85E-09	0.00E+00	1.62E-03	1.64E-03	0.00E+00
Exported energy - electricity	MJ	1.46E-02	1.63E-04	1.63E-05	0.00E+00	0.00E+00	9.98E-06	0.00E+00	5.36E-04	1.54E-02	0.00E+00
Exported energy - thermal	MJ	3.77E-02	3.29E-04	6.24E-06	0.00E+00	0.00E+00	2.01E-05	0.00E+00	4.46E-04	3.85E-02	0.00E+00



Mandatory Statements

Explanatory material can be obtained from EPD owner and/or LCA author. Contact information can be found below. The owner of the declaration shall be liable for the underlying information and evidence. The LCA Author shall not be liable with respect to manufacturer information, life cycle assessment data and evidences. The verifier and The Environmental Footprint Institute do not make any claim or present any responsibility about the legality of the product. EPDs within the same product category but from different programs may not be comparable.

Contact Information

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LCA AUTHOR	Name: Mehmood Khan National Paints Factories Co. Ltd. Tel: +971 5 01060261 mehmood.khan@nationalpaints.com	NATIONAL PAINTS
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Additional information

No additional information is provided.

Information related to Sector EPD

This is not sector EPD.

Differences versus previous versions

This is the first version of the EPD.

References

LCA Report: Life Cycle Inventory of National Guard Primer for Cement Clear by National Paints Factories Co. Ltd.

Software: Air.e LCA Version 3.17.4.0 www.solidforest.com

Main database: Ecoinvent 3.10.0 www.ecoinvent.org

Geographical scope of the EPD: United Arab Emirates.

ISO 14040:2006 "Environmental management -- life cycle assessment -- principles and framework";

ISO 14044:2006 "Environmental management -- life cycle assessment -- requirements and guidelines";

ISO 14020:2000 "Environmental Labels and declarations - General Principles

ISO 14025:2006 "Environmental labels and declarations -- type III environmental declarations - principles and procedures".

EN 15804+A2:2019/AC:2021 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.



