Environmental Product Declaration

IN ACCORDANCE WITH ISO 14025 AND EN 15804:A2:2019/AC:2021

Program Operator: Smart EPD®
www.smartepd.com

SmartEPD-2025-044-0318-01

Stonkote ESD

Date of Issue	Expiration date	Last updated
Feb 13, 2025	**Feb 13, 2030**	**Feb 13, 2025**

STONHARD

Refer to the EPD Library at www.smartepd.com for the latest EPD listing information

General Information

Stonhard

1000 E. Park Ave., Maple Shade, NJ 08052

800.257.7953

info@stonhard.com stonhard.com

Product Name:	Stonkote ESD
Declared Unit:	1 kg
Declaration Number:	SmartEPD-2025-044-0318-01
Date of Issue:	February 13, 2025
Expiration:	February 13, 2030
Last updated:	February 13, 2025
EPD Scope:	Cradle to gate with other options A1 - A3, A4, A5, C1-C4, D
Market(s) of Applicability:	Europe

General Organization Information

Stonhard is committed to manufacturing and installing quality, seamless products that protect, maintain and enhance industrial and commercial environments. We maintain a global leadership position in the marketplace with the support of those who stand behind the Stonhard name, and who passionately believe that success happens because of the people who make it happen.

Further information can be found at: www.stonhard.com

Limitations, Liability, and Ownership

Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the whole building life cycle. EPD comparability is only possible when all stages of a life cycle have been considered. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared. The EPD owner has sole ownership, liability, and responsibility for the EPD.

Reference Standards

Standard(s):	ISO 14025 and ISO 21930:2017
Core PCR:	EPD International PCR for Construction Products 2019:14 (EN 15804:A2:2019/AC:2021) v1.3.4 Date of issue: April 30, 2024 Valid until: June 20, 2025

Sub-category PCR review panel:	Contact Smart EPD for more information.
General Program Instructions:	Smart EPD General Program Instructions v.1.0, November 2022

Verification Information

LCA Author/Creator:	Juan David Villegas | juan@parqhq.com
EPD Program Operator:	Smart EPD | info@smartepd.com | www.smartepd.com 585 Grove St., Ste. 145 PMB 966, Herndon, VA 20170, USA
Verification:	Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071: External Ranjani Theregowda | Smart EPD LLC | ranjani.theregowda@smartepd.com Independent external verification of EPD, according to ISO 14025 and reference PCR(s): External Ranjani Theregowda | Smart EPD LLC | ranjani.theregowda@smartepd.com

Product Information

Declared Unit:	1 kg
Mass:	1 kg
Product Specificity:	✗ Product Average ✓ Product Specific

Product Description

Stonkote ESD is a two-component, epoxy coating designed and suitable for areas requiring electrostatic discharge (ESD) properties. It is formulated to improve cleanability and control static charge generation. Stonkote ESD is easily applied and hardens to an attractive gloss finish.

Further information can be found at: https://www.stonhard.com/products/complementary-products/resin-floor-coatings/

Product Specifications

Product SKU(s):	3344A,36484B1
Product Classification Codes:	EC3 - Finishes -> Flooring -> OtherFlooring

Material Composition

Material/Component Category	Origin	% Mass
Curing agent	DEU	20 - 40%
Epoxy resin	NLD,ITA,USA	50 - 70%
Defoamer	DEU	<10%
Surface additive	DEU	<10%
Filler, extender	ITA	<10%
Solvent	ITA	<10%
Pigment	DEU	<10%

Biogenic Carbon Content	kg C per kg
Biogenic carbon content in product	None
Biogenic carbon content in accompanying packaging	0.024

Hazardous Materials
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether (84144-79-6)
1,6 hexanediol glycidyl ether (16096-31-4)
2-Propenenitrile, reaction products with ethylenediamine, hydrogenated, reaction products with benzaldehyde, diethylenetriam ine and triethylenetetram ine, hydrogenated (1173092-74-4)
3-aminopropyldiethylamine (104-78-9)
4-chloro-trifluoromethylbenzene (98-56-6)
Benzyl alcohol (100-51-6)
diethylenetriamine (111-40-0)
Epoxy resin based on bisphenol F (9003-36-5)
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (25068-38-6)
Siloxanes and Silicones, di-Me, reaction products with silica (67762-90-7)
titanium dioxide (13463-67-7)

EPD Data Specificity

Primary Data Year: 2023-2024

Manufacturing Specificity:

- ✗ Industry Average
- ✗ Manufacturer Average
- ✓ Facility Specific

Averaging:

Averaging was not conducted for this EPD

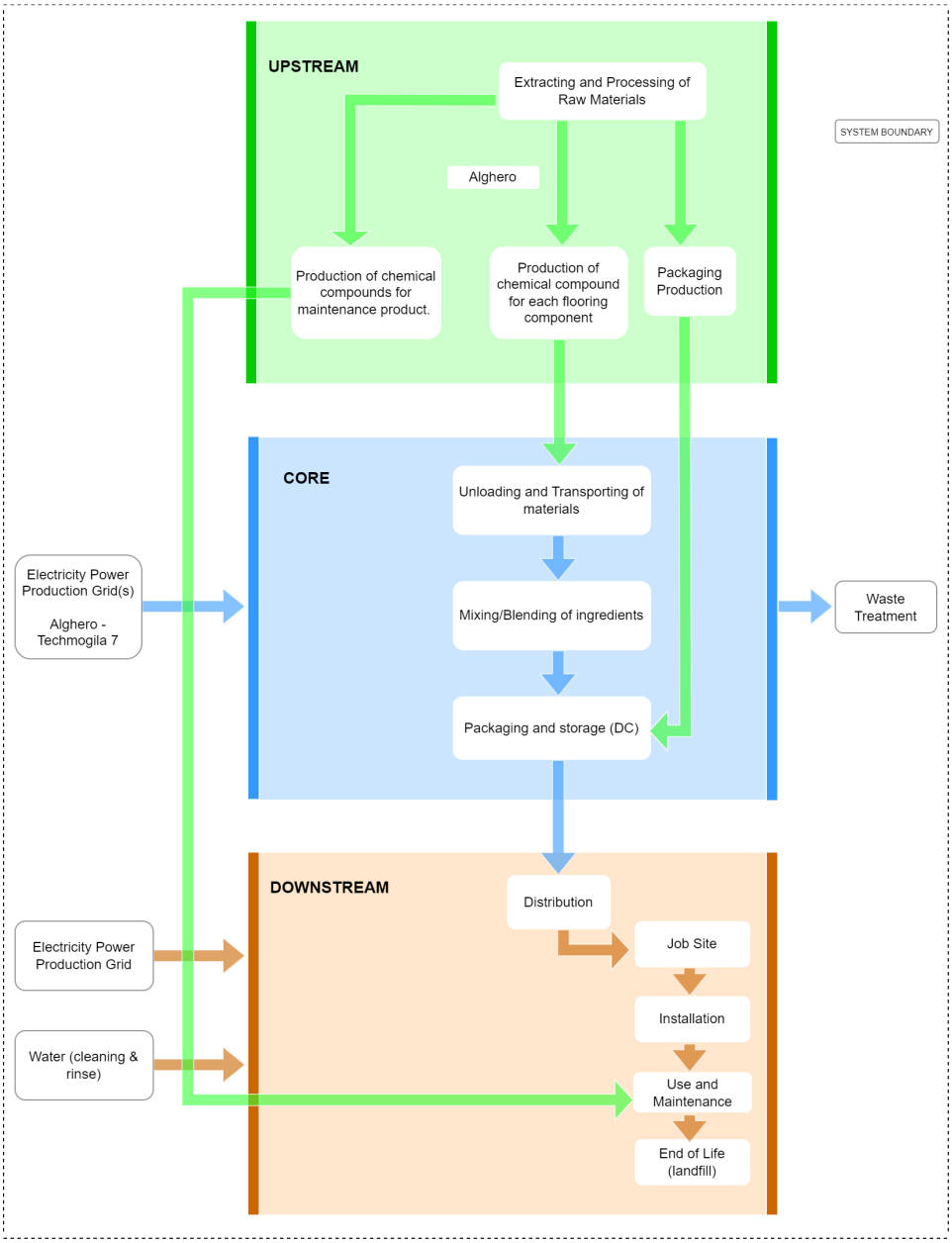
System Boundary

Production	A1	Raw material supply	✓
	A2	Transport	✓
	A3	Manufacturing	✓
Construction	A4	Transport to site	✓
	A5	Assembly / Install	✓
Use	B1	Use	ND
	B2	Maintenance	ND
	B3	Repair	ND
	B4	Replacement	ND
	B5	Refurbishment	ND
	B6	Operational Energy Use	ND
	B7	Operational Water Use	ND
End of Life	C1	Deconstruction	✓
	C2	Transport	✓
	C3	Waste Processing	✓
	C4	Disposal	✓
Benefits & Loads Beyond System Boundary	D	Recycling, Reuse Recovery Potential	✓

Plants

Alghero, Italy
Alghero, Province of Sassari, Italy

Product Flow Diagram



Software and Database

LCA Software:	SimaPro v. 9.5
LCI Foreground Database(s):	Ecoinvent v. 3.9.1
LCI Background Database(s):	Ecoinvent v. 3.9.1

Data Quality

The quality of inventory data is evaluated based on several criteria, including precision, completeness, consistency, and representativeness.

Precision and Completeness

- Precision: The inventory data used in this study were either directly measured, calculated, or estimated based on primary data sources, ensuring high precision. Background data from ecoinvent v3.9.1 database also has documented precision to the extent available.
- Completeness: The product system's mass balance and inventory completeness were thoroughly checked. Some exclusions were made in line with the PCR requirements, such as personnel impacts, R&D activities, business travel, secondary packaging, point of sale infrastructure, and the coating applicator. However, no data was intentionally omitted..

Consistency and Reproducibility

- Consistency: Primary data were collected with a similar level of detail, while background data came from the ecoinvent v3.9.1 database. The modeling approach and other methodological choices were applied consistently throughout the model. Default values from the PCR were considered where there was unavailability of primary data, For example, the default waste transport distance was used for product disposal assessment.
- Reproducibility: This study ensures reproducibility by providing comprehensive disclosure of input-output data, dataset choices, and modeling approaches. A knowledgeable third party should be able to approximate the results using the same data and modeling methods.

Representativeness

- Temporal: Primary data were collected for the 12 month period starting June 2023 and ending in May 2024 to ensure the representativeness of post-consumer content. Secondary data from the ecoinvent v3 database is typically representative of recent years. to ensure the representativeness of post-consumer content. Secondary data from the ecoinvent v3 database is typically representative of recent years.
- Geographical: Primary data represent Stonhard's production facilities. Where applicable, differences in electric grid mix were considered using appropriate secondary data. The use of country-specific data ensures high geographical representativeness, and proxy data were only used when country-specific data were unavailable.
- Technological: Both primary and secondary data were tailored to the specific technologies studied, ensuring high technological representativeness.

Life Cycle Module Descriptions

Primary data were collected for the 12 month period starting June 2023 and ending May 2024 to ensure technical, geographical and temporal the representativeness. The manufacturing process entails the addition of pre-weighted ingredients, followed by mixing in the correct sequence to create the desired products. Subsequently, packages and distributes the finished products to various distribution centers. The process involves the use of grid electricity, energy from natural diesel combustion, an process water. Non hazardous waste consisting mainly of packaging material is sent to disposal or recycling.

LCA Discussion

Allocation Procedure

Allocation of co-products was avoided, to the extent it was possible, based on the guidance given in ISO 14044:2006, 4.3., in EN 15804+A2:2019 and section 4.5.1 of Construction Products PCR 2019:14 version 1.3.4. Mass allocation was applied to energy and water use at the facility level. Waste allocation followed the polluter pays principle as indicated in section 4.5.2 of the PCR. Total product mass produced at each facility was provided.

Cut-off Procedure

No cut-off criteria are defined for this study. The system boundary was defined based on relevance to the goal of the study. For the processes within the system boundary, all available energy and material flow data have been included in the model. In cases where no matching life cycle inventories are available to represent a flow, proxy data have been applied based on conservative assumptions regarding environmental impacts.

Renewable Electricity

Energy Attribute Certificates (EACs) such as Renewable Energy Certificates (RECs) or Power Purchase Agreements (PPAs) are included in the baseline reported results:	✕ No

Scenarios

Transport to the building/construction site (A4)

A4 Module

Fuel Type:	Diesel
Vehicle Type:	Truck and Trailer
Transport Distance:	1.118e+03 km
Capacity Utilization:	33 %
Packaging Mass:	8.293e-02 kg
Gross density of products transported:	1.220e+03 kg/m3
Weight of products transported:	1.000e+00 kg
Volume of products transported:	8.197e-04 m3
Capacity utilization volume factor:	1
Assumptions for scenario development:	Transport distance includes finished product to distribution center and distribution center to point of sale.

Installation in to the building/construction site (A5)

A5 Module

Product Lost per Functional Unit:	0.1 kg
Mass of Packaging Waste Specified by Type:	0.08293 kg
VOC Emissions:	69000000000 ug/m3
Assumptions for scenario development:	

VOC Assumptions:	The VOC content reported in this EPD is a conservative estimated value and may not accurately represent the actual VOC emissions during the coating's curing process after installation. It is provided for informational purposes only and should not be used as a direct indicator of emissions under actual use conditions

End of Life (C1 - C4)

C1 - C4 Modules

Collection Process

Collected with Mixed Construction Waste:	1 kg

Recovery

Landfill:	1 kg

Results

Environmental Impact Assessment Results

EF 3.1

per 1 kg of product .

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

Baseline

Impact Category	Method	Unit	A1A2A3	A4	A5	C1	C2	C3	C4	D
GWP-total	EF 3.1	kg CO2e	6.33e+0	2.95e-1	1.21e-1	0	9.44e-3	0	5.96e-3	0
GWP-biogenic	EF 3.1	kg CO2 eq	-4.76e-2	2.17e-4	4.28e-3	0	3.18e-6	0	3.41e-6	0
GWP-fossil	EF 3.1	kg CO2 eq	6.37e+0	2.94e-1	1.17e-1	0	9.43e-3	0	5.95e-3	0
GWP-luluc	EF 3.1	kg CO2 eq	6.00e-3	1.37e-4	2.91e-4	0	4.86e-6	0	3.60e-6	0
ODP	EF 3.1	kg CFC11 eq	2.24e-5	6.34e-9	2.10e-9	0	1.42e-10	0	1.73e-10	0
AP	EF 3.1	kg SO2 eq	3.92e-2	1.20e-3	5.88e-4	0	5.57e-5	0	4.49e-5	0
EP-freshwater	EF 3.1	kg N eq	1.84e-3	1.99e-5	1.06e-4	0	7.67e-7	0	4.96e-7	0
EP-marine	EF 3.1	kg N eq	7.60e-3	3.82e-4	1.06e-4	0	2.27e-5	0	1.72e-5	0
EP-terrestrial	EF 3.1	kg N eq	8.21e-2	4.07e-3	9.37e-4	0	2.45e-4	0	1.85e-4	0
POCP	EF 3.1	kg O3 eq	2.74e-2	1.56e-3	3.03e-4	0	7.68e-5	0	6.43e-5	0
ADP-minerals&metals	EF 3.1	kg Sb eq	5.53e-5	9.15e-7	2.32e-7	0	3.01e-8	0	8.27e-9	0
ADP-fossil	EF 3.1	MJ	1.09e+2	4.12e+0	2.69e+0	0	1.34e-1	0	1.48e-1	0
WDP	EF 3.1	m3 world eq	4.81e+0	1.54e-2	2.83e-2	0	5.89e-4	0	6.56e-3	0

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

GWP = Global Warming Potential, 100 years (may also be denoted as GWP-total, GWP-fossil (fossil fuels), GWP-biogenic (biogenic sources), GWP-luluc (land use and land use change)), ODP = Ozone Depletion Potential, AP = Acidification Potential, EP = Eutrophication Potential, SFP = Smog Formation Potential, POCP = Photochemical oxidant creation potential, ADP-Fossil = Abiotic depletion potential for fossil resources, ADP-Minerals&Metals = Abiotic depletion potential for non-fossil resources, WDP = Water deprivation potential, PM = Particular Matter Emissions, IRP = Ionizing radiation, human health, ETP-fw = Eco-toxicity (freshwater), HTP-c = Human toxicity (cancer), HTP-nc = Human toxicity (non-cancer), SQP = Soil quality index.

Comparisons cannot be made between product-specific or industry average EPDs at the design stage of a project, before a building has been specified. Comparisons may be made between product-specific or industry average EPDs at the time of product purchase when product performance and specifications have been established and serve as a functional unit for comparison. Environmental impact results shall be converted to a functional unit basis before any comparison is attempted. Any comparison of EPDs shall be subject to the requirements of ISO 21930 or EN 15804. EPDs are not comparative assertions and are either not comparable or have limited comparability when they have different system boundaries. EPDs are not comparative assertions and are either not comparable or have limited comparability when they have different system boundaries, are based on different product category rules or are missing relevant environmental impacts. Such comparison can be inaccurate, and could lead to erroneous selection of materials or products which are higher-impact, at least in some impact categories.

Resource Use Indicators

per 1 kg of product .

Baseline

Indicator	Unit	A1A2A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	6.87e+0	7.05e-2	5.13e-1	0	1.69e-3	0	1.26e-3	0
PERM	MJ	0	0	0	0	0	0	0	0
PERT	MJ	6.87e+0	7.05e-2	5.13e-1	0	1.69e-3	0	1.26e-3	0
PENRE	MJ	1.09e+2	4.12e+0	2.69e+0	0	1.34e-1	0	1.48e-1	0
PENRM	MJ	1.21e-2	2.72e-4	4.37e-3	0	1.92e-6	0	2.30e-6	0
PENRT	MJ	1.09e+2	4.12e+0	2.69e+0	0	1.34e-1	0	1.48e-1	0
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	1.20e-1	5.01e-4	2.10e-3	0	1.51e-5	0	1.53e-4	0

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

RPRE or PERE = Renewable primary resources used as energy carrier (fuel), RPRM or PERM = Renewable primary resources with energy content used as material, RPRT or PERT = Total use of renewable primary resources with energy content, NRPRE or PENRE = Non-renewable primary resources used as an energy carrier (fuel), NRPRM or PENRM = Non-renewable primary resources with energy content used as material, NRPRT or PENRT = Total non-renewable primary resources with energy content, SM = Secondary materials, RSF = Renewable secondary fuels, NRSF = Non-renewable secondary fuels, RE = Recovered energy, ADPF = Abiotic depletion potential, FW = Use of net freshwater resources, VOCs = Volatile Organic Compounds.

Waste and Output Flow Indicators

per 1 kg of product .

Baseline

Indicator	Unit	A1A2A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	5.72e-1	9.31e-5	8.38e-5	0	3.33e-6	0	1.83e-6	0
NHWD	kg	1.46e+0	1.65e-1	1.10e-1	0	6.42e-3	0	9.80e-1	0
RWD	kg	6.66e-5	1.60e-6	1.94e-5	0	2.69e-8	0	2.19e-8	0
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

HWD = Hazardous waste disposed, NHWD = Non-hazardous waste disposed, RWD = Radioactive waste disposed, HLRW = High-level radioactive waste, ILLRW = Intermediate- and low-level radioactive waste, CRU = Components for re-use, MFR or MR = Materials for recycling, MER = Materials for energy recovery, MNER = Materials for incineration, no energy recovery, EE or EEE = Recovered energy exported from the product system, EET = Exported thermal energy.

Carbon Emissions and Removals

per 1 kg of product .

Tech

Indicator	Unit	A1A2A3	A5	C4	D
BCRP	kg CO2	0	0	0	ND
BCEP	kg CO2	0	0	0	ND
BCRK	kg CO2	8.73e-2	0	0	ND
BCEK	kg CO2	0	-8.73e-2	0	ND
BCEW	kg CO2	0	0	0	ND
CCE	kg CO2	0	0	0	ND
CCR	kg CO2	0	0	0	ND
CWNR	kg CO2	0	0	0	ND

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

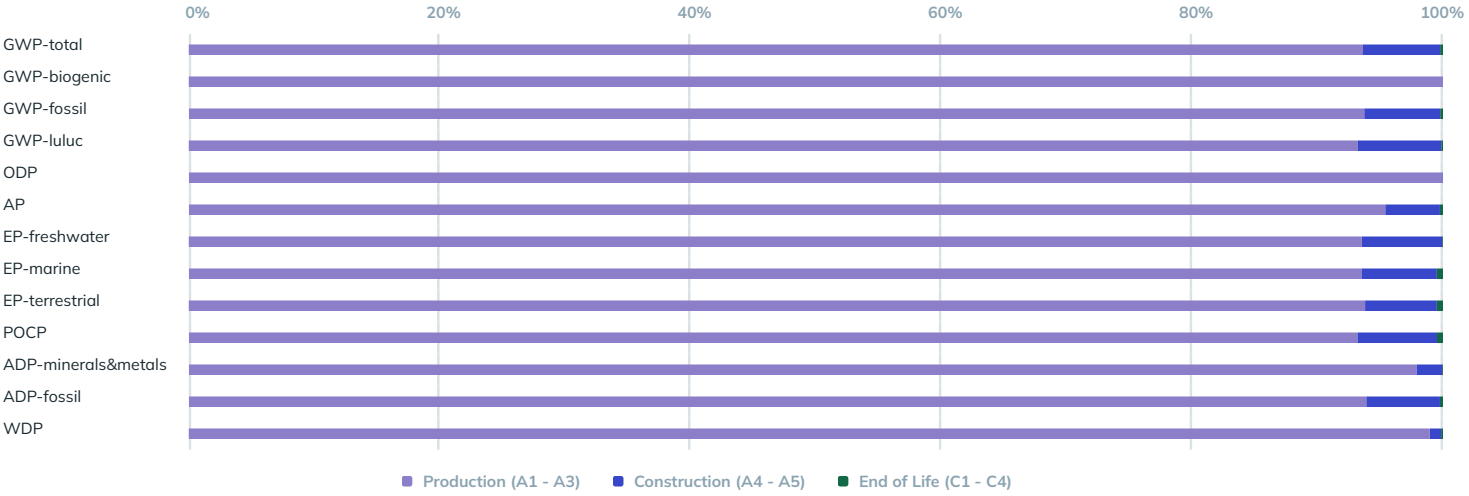
BCRP = Biogenic Carbon Removal from Product, BCEP = Biogenic Carbon Emission from Product, BCRK = Biogenic Carbon Removal from Packaging, BCEK = Biogenic Carbon Emission from Packaging, BCEW = Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes, CCE = Calcination Carbon Emissions, CCR = Carbonation Carbon Removals, CWNR = Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes, GWP-luc = Carbon Emissions from Land-use Change.

Interpretation

• The manufacturing of the products in this analysis involves the direct procurement of raw materials from suppliers. These materials are then transported to manufacturing facilities in Europe where they are stored and mixed to produce the coatings. Notably, the product stage (stage 1) has the highest impact contribution, mainly attributed to the combined environmental impacts associated with raw material manufacturing and energy used in manufacturing.

• For products with significant manufacturing energy impacts, the shift to renewable energy sources is recommended.

• Given that the raw materials used in product manufacturing have a significant impact, exploration of opportunities to substitute these materials with alternatives that have a lower environmental impact. Additionally, consideration should be given to collaborating with suppliers who employ sustainable manufacturing techniques or integrate more renewable energy into their production processes. Such initiatives can lead to more environmentally friendly products and further enhance the sustainability of the products in this analysis.



Additional Environmental Information

Before using this product, it is recommended that the operator read and follow all caution statements on the product data sheet and on the SDS for this product, and personal protective equipment must be used as directed.

Other Environmental Impacts

Impact Category	Indicator	Unit	A1A2A3	A4	A5	C1	C2	C3	C4	D
PM	ND	Disease incidence	4.46e-7	1.97e-8	2.10e-9	0	1.01e-9	0	9.83e-10	0
IRP	ND	kBq U235 eq	2.64e-1	6.51e-3	7.59e-2	0	1.13e-4	0	9.40e-5	0
ETP-fwio	ND	CTUe	5.97e+1	2.01e+0	2.97e-1	0	7.19e-2	0	6.56e-2	0
ETP-fwo	ND	CTUe	3.40e+1	7.30e-2	4.39e-2	0	2.65e-3	0	4.02e-3	0
SQP	ND	Pt	2.68e+1	2.06e+0	4.35e-1	0	7.91e-2	0	2.95e-1	0
HTPc	ND	CTUh	1.61e-8	1.23e-10	3.67e-11	0	6.24e-12	0	2.54e-12	0
HTPcio	ND	CTUh	2.18e-9	6.26e-11	1.98e-11	0	2.08e-12	0	1.16e-12	0
HTPco	ND	CTUh	1.39e-8	6.06e-11	1.68e-11	0	4.16e-12	0	1.38e-12	0
HTPnc	ND	CTUh	7.86e-8	2.69e-9	1.02e-9	0	1.18e-10	0	3.17e-11	0
HTPncio	ND	CTUh	7.37e-8	2.53e-9	9.91e-10	0	8.99e-11	0	2.86e-11	0
HTPnco	ND	CTUh	4.92e-9	1.63e-10	2.62e-11	0	2.83e-11	0	3.15e-12	0
GWP-GWG	ND	kg CO2e	6.38e+0	2.95e-1	1.17e-1	0	9.43e-3	0	5.96e-3	0

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

GWP-IOBC/GWP-GHG = Climate change indicator with instantanious oxidation of biogenic carbon. The GWP-IOBC indicator has zero contribution to GWP from biogenic carbon temporary stored in products and packaging. The GWP-IOBC indicator, also called GWP-GHG, is identical to GWP-total except that the characterization factor (CF) for biogenic CO2 is set to zero.

References

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- Ecoinvent v3.9.1, December 2022. The ecoinvent database: Overview and methodology, Data quality guideline for the ecoinvent database version 3, www.ecoinvent.org