Environmental Product Declaration

CURING & SEALING COMPOUNDS -LOW VOC SOLVENT BASED

KAUFMAN

Concrete Treatments

Environmental Product Declaration for all Curing & Sealing Compounds - Low VOC Solvent Based manufactured by Kaufman Products, Inc. in Baltimore, Maryland USA.

AMERICAN OWNED & MANUFACTURED

ADMINISTRATIVE INFORMATION

International Certified Environmental Product Declaration

Declared Product:	This Environmental Product Declaration (EPD) covers curing compound products produced by Kaufman Products Inc. Declared unit: 1 m2 of curing compounds-low VOC, solvent based
Declaration Owner:	Kaufman Products Inc. 3811 Curtis Avenue Baltimore, Maryland www.kaufmanproducts.net
Program Operator:	Labeling Sustainability 1800 Vine St. Los Angeles, CA 90028 www.labelingsustainability.com
Product Category Rule:	ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services. PCR Program Operator: NSF International PCR review was conducted by: Thomas P. Gloria, Mr. Bill Stough, Dr. Michael Overcash
Independent LCA Reviewer and EPD Verifier:	This declaration was independently verified in accordance with ISO 14025:2006 Independent verification of the declaration, according to ISO 14025:2006 Internal ☐ ; External X Third Party Verifier Geoffrey Guest, Certified 3rd Party Verifier under Labeling Sustainability Program (www.labelingsustainability.com), CSA Group (www.csaregistries.ca)
Date of Issue:	17 December 2024
Period of Validity:	5 years; valid until 17 December 2029
EPD Number:	3bc3b52e-ca3e-48cf-8548-f9b96bb8e150-1

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COMPANY DESCRIPTION

Kaufman Products, Inc. offers more than two hundred products for use on new concrete construction projects and restoration and repair work of existing concrete structures. Among the various powders and chemicals manufactured, Kaufman Products offers epoxy adhesives, cementitious and polymer-modified repair mortars, curing compounds, form release agents, coatings, non-shrink grouts, retarders and accelerating agents, curing and sealing compounds, shake-on hardeners, penetrating hardeners, and anchoring materials. In addition, the breadth of its product line continues to grow, allowing its business partners to carry a complete line of products that meet a wide range of needs.

Kaufman Products is specified throughout North America through our long-time business partnerships with the two leading specification programs, SpecLink and MasterSpec. As a result, our brand name is called for routinely on both commercial and residential construction projects. In addition, Kaufman Products actively participates in the National Transportation Product Evaluation Program (NTPEP) through the American Association of State Highway Transportation Officials (AASHTO). As a result, many of our epoxies, repair mortars, grouts, and curing compounds were tested and are approved throughout the United States for use on roadways, bridges, sidewalks, and manufactured concrete products. At present, Kaufman Products has more than six-hundred approvals on these products from the many states and local authorities and is considered to be among the leaders in DOT approved materials throughout the United States.

Kaufman Products remains dedicated to preserving and protecting the environment. While they were perhaps the first company to use safer and greener materials, exemplified by our early adoption of emulsion technology and water-based curing compounds over forty years ago, we continue to pursue our vision of using recycled or waste-stream in our selection of both packaging materials and raw materials. To this end, Kaufman Products uses recycled plastic pails, re-conditioned drums, totes, and restored wood pallets to reduce our environmental impact. Moreover, its product formulations incorporate many waste-stream materials to reduce our environmental impact. Accordingly, Kaufman Products can provide LEED credits related to these decisions.

STUDY GOAL

The intended application of this life cycle assessment (LCA) is to comply with the procedures for creating a Type III environmental product declaration (EPD) and publish the EPD for public review on the website, www.labelingsustainability.com. This level of study is in accordance with EPD Product Category Rule (PCR) with Sub PCR Architectural Coatings: NAICS 325510 for Curing compounds – low VOC solvent based products published by; International Standards Organization (ISO) 14025:2006 Environmental labels and declarations, Type III environmental declarations-Principles and procedures; ISO 14044:2006 Environmental management, Life cycle assessment- Requirements and guidelines; and ISO 14040:2006 Environmental management, Life cycle assessment-Principles and framework. The performance of this study and its subsequent publishing is in alignment with the business-to-business (B2B) communication requirements for the environmental assessment of building products. The study does not intend to support comparative assertions and is intended to be disclosed to the public.

This project report was commissioned to differentiate Kaufman Products Inc. from their competition for the following reasons: generate an advantage for the organization; offer customers information to help them make informed product decisions; improve the environmental performance of Kaufman Products Inc. by continuously measuring, controlling and reducing the environmental impacts of their products; help project facilitators working

on Leadership in Energy and Environmental Design (LEED) projects achieve their credit goal; and to strengthen Kaufman Products Inc.'s license to operate in the community. The intended audience for this LCA report is Kaufman Products Inc.'s employees, their suppliers, project specifiers of their products, architects, and engineers. The EPD report is also available for policy makers, government officials interested in sustainability, academic professors, and LCA professionals. This LCA report does not include product comparisons from other facilities.

DESCRIPTION OF PRODUCT AND SCOPE

Kaufman's Krystal curing and sealing compounds have been specifically formulated to meet the rigid VOC content regulations from the OTC, LADCO, and EPA. These unique products exhibit superior resistance to yellowing caused by UV exposure, making them particularly well-suited for the curing of freshly placed exterior architectural concrete where any yellowing is deemed unacceptable. Additionally, Krystal products offer a wet-look or glossy finish and have been optimized for cold-weather applications, ensuring proper drying even in temperatures as low as 40°F.

This LCA assumes the impacts from products manufactured in accordance with the standards outlined in this report. This LCA is a cradle-to-gate study, and therefore, stages extending beyond the plant gate are not included in this LCA. Excluded stages include transportation of the manufactured material to the construction site; on-site construction processes and components; building (infrastructure) use and maintenance; and "end-of-life" effects.

CURING COMPOUND - LOW VOC SOLVENT BASED DESIGN SUMMARY

The following tables provide a list of the curing compounds - low VOC, solvent based products considered in this EPD along with key performance parameters.

Table 1: **Declared products with curing compound – low VOC solvent based products considered in this environmental product declaration.**

Prod#	Unique name/ID	Short description	Product type
1	Krystal Shield OTC	Solvent-borne, low-VOC, hybrid curing & sealing compound and penetrating sealer	Curing, Sealing & Protective Coating
2	Krystal 25 OTC / Brown	Solvent-based, low-VOC, acrylic-modified, wet-look curing & sealing compound	Curing, Sealing & Protective Coating
3	Krystal 30 OTC / Brown	Solvent-based, acrylic co-polymer, wet-look curing & sealing compound	Curing, Sealing & Protective Coating
4	Krystal ReFresh OTC	Solvent-based, low-VOC, all acrylic curing, sealing, and re-finishing compound	Curing, Sealing & Protective Coating

CURING COMPOUND - LOW VOC SOLVENT BASED DESIGN COMPOSITION

The following table provides the breakdown (m2 per functional unit) of the material composition of each curing compound - low VOC, solvent based considered. All proprietary information has been withheld.

Table 2: **Material composition - All declared products per 1 m2 of curing compounds-low VOC, solvent based**

Prod#	Unique name/ID	Product type
1	Krystal Shield OTC	Organic solvents Coating agent Water repellent
2	Krystal 25 OTC / Brown	Organic solvents Proprietary polymer
3	Krystal 30 OTC / Brown	Organic solvents Coating agent
4	Krystal ReFresh OTC	Organic solvents Proprietary Polymer

A1 RAW MATERIAL RECYCLED CONTENT AND MATERIAL LOSSES

Kaufman Products is committed to using as much not linear inflows to their products as possible. Recycled content in their products includes the reuse of steel barrels and totes (table 2) as well as proprietary ingredients. All recycled material in this study followed the "Polluter Pays" principle. A standard 2% material loss was used across all categories.

SYSTEM BOUNDARIES

The following figure depicts the cradle-to-gate system boundary considered in this study:

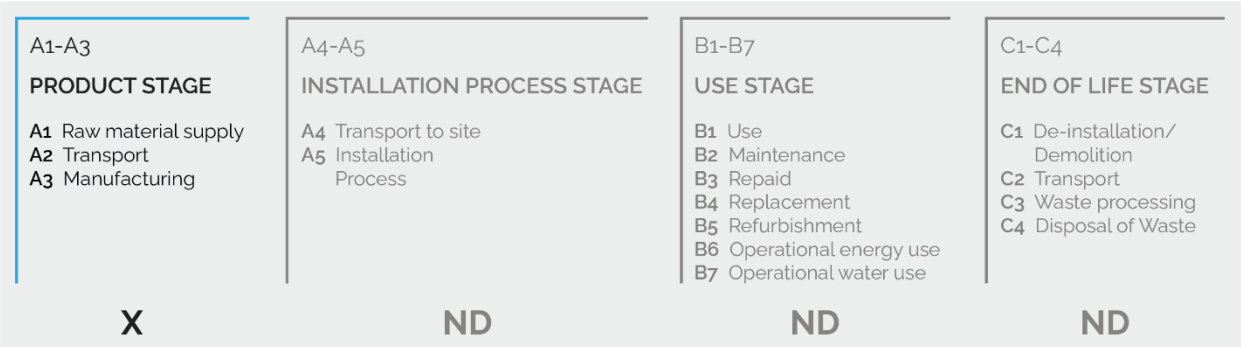

Figure 1: **General life cycle phases for consideration in a construction works system**

This is a Cradle-to-gate life cycle assessment and the following life cycle stages are included in the study:

- A1: Raw material supply (upstream processes) - Extraction, handling, and processing of the materials used in manufacturing the declared products in this LCA.
- A2: Transportation - Transportation of A1 materials from the supplier to the "gate" of the manufacturing facility (i.e. A3).

- A3: Manufacturing (core processes)- The energy and other utility inputs used to store, move, and manufacture the declared products and to operate the facility.

As according to the PCR, the following figure illustrates the general activities and input requirements for producing Curing compounds – low VOC solvent based products and is not necessarily exhaustive.

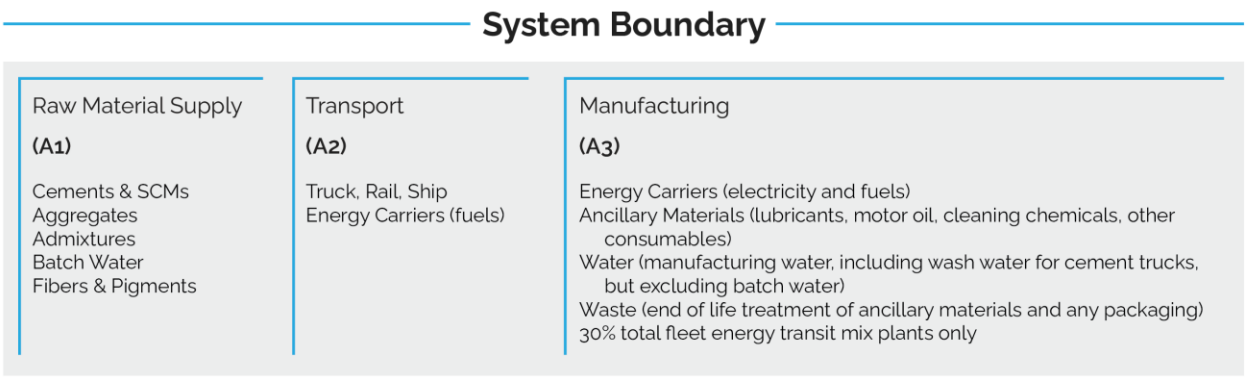

Figure 2: **General system inputs considered in the product system and categorized by modules in scope**

In addition, as according to the relevant PCR, the following requirements are excluded from this study:

- Production, manufacture and construction of A3 building/capital goods and infrastructure.
- Production and manufacture of steel production equipment, steel delivery vehicles, earth-moving equipment, and laboratory equipment.
- Personnel-related activities (travel, furniture, office supplies).
- Energy use related to company management and sales activities.

For this LCA the manufacturing plant, owned and operated by Kaufman Products Inc., is located at their Kaufman Products facility in Northeast United States. All operating data is formulated using the actual data from Kaufman Products Inc.'s plant at the above location, including water, energy consumption and waste generation. All inputs for this system boundary are calculated for the plant.

This life cycle inventory was organized in a spreadsheet and was then input into an RStudio environment where pre-calculated LCIA results for relevant products/activities stemming from the ecoinvent v3.10 database and a local EPD database in combination with primary data from Kaufman Products Inc. were utilized. Explanations of the contribution of each data source to this study are outlined in the section 'Data Sources and Quality'. Further LCI details for each declared product are provided in the sections 'Detailed LCI tables' and 'Transport tables' of the detailed LCA report. A parameter uncertainty analysis was also performed where key statistical results (e.g. min/mean/max etc.) are provided in the detailed LCA report.

No known flows are deliberately excluded from this EPD.

CUT-OFF CRITERIA

ISO 14044:2006 and the focus PCR requires the LCA model to contain a minimum of 95% of the total inflows (mass and energy) to the upstream and core modules be included in this study. The cut-off criteria were applied to all other processes unless otherwise noted above as follows. A 1% cut-off is considered for all renewable and non-renewable primary energy consumption and the total mass of inputs within a unit process where the total of the neglected inputs does not exceed 5%.

DATA SOURCES AND DATA QUALITY ASSESSMENT

No recovered on-site energy occurs at this facility.

No re-used or recycled material for utilization on-site or off-site was reported at this facility.

The following statements explain how the above facility requirements/generation were derived:

Raw material transport: Kaufman provided all primary information for the reference year 2022, including comprehensive details on raw material consumption and logistics data for Baltimore, MD manufacturing facility. This includes a wide range of raw materials such as solvents, proprietary additives, pigments, and more, used in the manufacturing of different products. The transportation of these materials was determined based on the actual distance from the manufacturers or distributors. Kaufman relied on primary data to document transportation specifics, including the exact distance, mode of transport, and location details such as city, state, and country.

Electricity: The reported electricity consumption is based on the primary information from the Kaufman utility bills for the reporting period. Electricity usage allocation was initially determined by calculating the percentage of each product covered in this study relative to its sales volume. Subsequently, the resulting sales percentage values were multiplied by the total electricity consumption. Thus, giving specific value for each product to the overall electricity consumption.

Process/space heating: This facility does not use natural gas on-site.

Fuel required for machinery: Machinery at this facility uses either electricity, reported in the utility bills, or diesel, which was also calculated from direct purchases records for the 2022 reference year.

Waste generation: All waste generation values were taken from primary waste hauling records and then confirmed by Kaufman personnel. Transportation defaults were used because the driver's route and ultimate destination are unknown. Therefore, the exact mileage could not be confirmed by the waste hauler.

Recovered energy: No on-site energy is recovered on site.

Recycled/reused material/components: No recycling is considered in this cradle-to-gate study.

Module A1 material losses: Default material losses, 2%, were used.

Direct A3 emissions accounting: Diesel combustion emissions on-site were assumed with a default ecoinvent process for burning diesel in a building machine.

The following tables depict a list of assumed life cycle inventory utilized in the LCA modeling to generate the impact results across the life cycle modules in scope. An assessment of the quality of each LCI activities utilized from various sources is also provided.

Table 3: **LCI inputs assumed for module A3**

Input	LCI.activity	Data.source	Geo	Year	Technology	Time	Geography	Reliability	Completeness
Bulk waste	process-specific burdens, residual material landfill/process-specific burdens, residual material landfill/RoW/kg	ecoinvent v3.10 in 2024	Maryland	2024	2	3	2	3	3
Diesel	diesel, burned in building machine/diesel, burned in building machine/GLO/MJ	ecoinvent v3.10 in 2024	Maryland	2024	2	3	2	3	3
Electricity	market for electricity, medium voltage/electricity, medium voltage/US-RFC/kWh	ecoinvent v3.10 in 2024	Maryland	2024	2	3	2	3	3
Plastic granules for blow moulding	market for polyethylene, high density, granulate, recycled/polyethylene, high density, granulate, recycled/RoW/kg	ecoinvent v3.10 in 2024	Multiple States	2024	2	3	2	3	3
Plastic wrapping film	market for packaging film, low density polyethylene/packaging film, low density polyethylene/GLO/kg	ecoinvent v3.10 in 2024	Maryland	2024	2	3	2	3	3
Reclaimed IBC tote (plastic)	market for blow moulding/blow moulding/GLO/kg	ecoinvent v3.10 in 2024	Pennsylvania	2024	2	3	2	3	3
Reclaimed IBC tote (steel)	market for steel, low-alloyed/steel, low-alloyed/GLO/kg	ecoinvent v3.10 in 2024	Pennsylvania	2024	1	3	2	3	3
Reclaimed steel cans	market for steel, low-alloyed/steel, low-alloyed/GLO/kg	ecoinvent v3.10 in 2024	Delaware Maryland	2024	1	3	2	3	3
Reclaimed steel drums	market for steel, low-alloyed/steel, low-alloyed/GLO/kg	ecoinvent v3.10 in 2024	New Jersey	2024	1	3	2	3	3

Reclaimed steel pails	market for steel, low-alloyed/steel, low-alloyed/GLO/kg	ecoinvent v3.10 in 2024	Delaware Maryland	2024	1	3	2	3	3
Reclaimed wooden-pallets	market for EUR-flat pallet/EUR-flat pallet/RoW/unit	ecoinvent v3.10 in 2024	Maryland	2024	2	3	2	3	3
Recycled plastic pails	market for blow moulding/blow moulding/GLO/kg	ecoinvent v3.10 in 2024	Delaware Maryland	2024	2	3	2	3	3

DATA QUALITY ASSESSMENT

Data quality/variability requirements, as specified in the PCR, are applied. This section describes the achieved data quality relative to the ISO 14044:2006 requirements. Data quality is judged based on its precision (measured, calculated or estimated), completeness (e.g., unreported emissions), consistency (degree of uniformity of the methodology applied within a study serving as a data source) and representativeness (geographical, temporal, and technological).

Precision: Through measurement and calculation, the manufacturers collected and provided primary data on their annual production. For accuracy, the LCA practitioner and 3rd Party Verifier validated the plant gate-to-gate data.

Completeness: All relevant specific processes, including inputs (raw materials, energy and ancillary materials) and outputs (emissions and production volume) were considered and modeled to represent the specified and declared products. The majority of relevant background materials and processes were taken from ecoinvent v3.10 LCI datasets where relatively recent region-specific electricity inputs were utilized. The most relevant EPDs requiring key A1 inputs were also utilized where readily available.

Consistency: To ensure consistency, the same modeling structure across the respective product systems was utilized for all inputs, which consisted of raw material inputs and ancillary material, energy flows, water resource inputs, product and co-products outputs, returned and recovered curing compound - low VOC, solvent based materials, emissions to air, water and soil, and waste recycling and treatment. The same background LCI datasets from the ecoinvent v3.10 database were used across all product systems. Crosschecks concerning the plausibility of mass and energy flows were continuously conducted. The LCA team conducted mass and energy balances at the plant and selected process level to maintain a high level of consistency.

Reproducibility: Internal reproducibility is possible since the data and the models are stored and available in a machine-readable project file for all foreground and background processes, and in Labeling Sustainability's proprietary curing agent LCA calculator* for all production facility and product-specific calculations. A considerable level of transparency is provided throughout the detailed LCA report as the specifications and material quantity make-up for the declared products are presented and key primary and secondary LCI data sources are summarized. The provision of more detailed publicly accessible data to allow full external reproducibility was not possible due to reasons of confidentiality.

Labeling Sustainability has developed a proprietary tool that allows the calculation of PCR-compliant LCA results for curing compound - low VOC, solvent based product designs. The tool auto-calculates results by scaling base-unit Technosphere inputs (i.e., 1 kg sand, 1 kWh electricity, etc.) to replicate the reference flow conversions that take place in any typical LCA software like openLCA or SimaPro. The tool was tested against several LCAs

performed in openLCA and the tool generated identical results to those realized in openLCA across every impact category and inventory metric (where comparisons could be readily made).

Representativeness: The representativeness of the data is summarized as follows.

- Time related coverage of the manufacturing processes' primary collected data from 2022-01-01 to 2022-12-31.
- Upstream (background) LCI data was either the PCR specified default (if applicable) or more appropriate LCI datasets as found in the country-adjusted ecoinvent v3.10 database.
- Geographical coverage for inputs required by the A3 facility(ies) is representative of its region of focus; other upstream and background processes are based on US, North American, or global average data and adjusted to regional electricity mixes when relevant.
- Technological coverage is typical or average and specific to the participating facilities for all primary data.

ENVIRONMENTAL INDICATORS AND INVENTORY METRICS

Per the PCR, this EPD supports the life cycle impact assessment indicators and inventory metrics as listed in the tables below. As specified in the PCR, the most recent US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI), impact categories were utilized as they provide a North American context for the mandatory category indicators to be included in the EPD. Additionally, the PCR requires a set of inventory metrics to be reported with the LCIA indicators (see tables below).

Table 4: **Life cycle impact categories and life cycle inventory metrics**

ID	LCIA.indicators	Abbreviations	Units
1	Climate change: global warming potential (GWP100)	GWP	kg CO2-eq
2	Ozone depletion: ozone depletion potential (ODP)	ODP	kg CFC-11-eq
3	Acidification: acidification potential (AP)	AP	kg SO2-eq
4	Eutrophication: eutrophication potential	EP	kg N-eq
5	Smog formation potential	SFP	kg O3-eq
6	Energy resources: non-renewable: abiotic depletion potential (ADP): fossil fuels	ADPfossil	MJ
Inventory metrics			
7	Inventory indicators ISO21930: Cumulative Energy Demand - renewable energy resources	RPRE	MJ
8	Inventory indicators ISO21930: Renewable primary resources with energy content used as material (i.e., PERM)	PRM	MJ
9	Inventory indicators ISO21930: Cumulative Energy Demand - non-renewable energy resources	NRPRE	MJ
10	Inventory indicators ISO21930: Non-renewable primary resources with energy content used as material (i.e., PENRM)	NRPRM	kg
11	Inventory indicators ISO21930: use of secondary material	SM	MJ
12	Inventory indicators ISO21930: use of renewable secondary fuels	RSF	MJ
13	Inventory indicators ISO21930: recovered energy	RE	MJ
14	Inventory indicators ISO21930: use of net fresh water	FW	m3
15	Inventory indicators ISO21930: hazardous waste disposed	HWD	kg
16	Inventory indicators ISO21930: non-hazardous waste disposed	NHWD	kg

17	Inventory indicators ISO21930: high-level radioactive waste disposed	HLRW	kg
18	Inventory indicators ISO21930: intermediate and low-level radioactive waste disposed	ILLRW	kg
19	Inventory indicators ISO21930: materials for recycling	MR	kg
20	Inventory indicators ISO21930: materials for energy recovery	MER	kg
21	Inventory indicators ISO21930: exported energy - electricity	EEel	MJ
22	Inventory indicators ISO21930: exported energy - heat	EEheat	MJ

It should be noted that emerging LCA impact categories and inventory items are still under development and can have high levels of uncertainty that preclude international acceptance pending further development. Use caution when interpreting data in any of the following categories.

- Renewable primary energy resources as energy (fuel);
- Renewable primary resources as material;
- Non-renewable primary resources as energy (fuel);
- Non-renewable primary resources as material;
- Secondary Materials;
- Renewable secondary fuels;
- Non-renewable secondary fuels;
- Recovered energy;
- Abiotic depletion potential for non-fossil mineral resources.
- Land use related impacts, for example on biodiversity and/or soil fertility;
- Toxicological aspects;
- Emissions from land use change [GWP 100 (land-use change)];
- Hazardous waste disposed;
- Non-hazardous waste disposed;
- High-level radioactive waste;
- Intermediate and low-level radioactive waste;
- Components for reuse;
- Materials for recycling;
- Materials for energy recovery;
- Recovered energy exported from the product system.

TOTAL IMPACT SUMMARY

Interpretation

This cradle-to-gate life cycle analysis of various Kaufman's Concrete Treatment Products revealed specific key contributors or environmental hotspots, that contribute significantly to individual products' carbon footprint. The products have been grouped by product categories or functional applications, enabling the development of group-wide mitigation strategies.

Primary Contributors: The raw materials (A1): hydrocarbon resin, and titanium dioxide production are the two prime contributors to the overall carbon footprint of the products, contributing between 52.4%-73.5%, and 18.7%-58.8% of the total impact, respectively, depending on their quantities per 1 m2 of product. While other components and manufacturing processes contribute to the overall global warming potential (GWP), their impact is comparatively smaller.

Mitigation Strategies: Hydrocarbon Resin & TiO2 Management: Evaluating alternative materials and sustainable approaches. This involves identifying lower-impact sources or, optimizing material usage to reduce quantity without compromising product quality.

Conclusion: Exploring and implementing sustainable alternatives for high-impact materials, such as styrene-acrylic co-polymers, hydrocarbon resins, TiO2, etc., along with optimizing the logistics network, are crucial priorities. By focusing on these key areas, significant reductions in global warming potential (GWP) and overall environmental impact can be achieved across these product categories.

The following table reports the total LCA results for each product produced at the given curing compound - low VOC, solvent based facility on a 1 m2 of concrete curing compound basis.

Table 5: **Total life cycle (across modules in scope) impact results for All declared products, assuming the geometric mean point values on a per 1 m2 of curing compound - low VOC, solvent based.**

a) Midpoint Impact Categories:

Indicator/LCI Metric	GWP	ODP	AP	EP	SFP	ADPfossil
Unit	kg CO2-eq	kg CFC-11-eq	kg SO2-eq	kg N-eq	kg O3-eq	MJ
Krystal Shield OTC	0.785	1.3e-08	0.00296	0.014	0.0436	14.1
Krystal 25 OTC / Brown	0.511	7.14e-09	0.00177	0.00717	0.0277	9.59
Krystal 30 OTC / Brown	0.511	7.01e-09	0.00174	0.00682	0.0274	9.69
Krystal ReFresh OTC	0.447	6.88e-09	0.00185	0.0105	0.0259	8.16

b) Resource Inventory Metrics:

Indicator/LCI Metric	RPRE	PRM	NRPRE	NRPRM	SM	RSF	RE	FW
Unit	MJ	MJ	MJ	kg	MJ	MJ	MJ	m3
Krystal Shield OTC	0.479	0.00167	0.478	4.83	0.0025	9.92e-05	0.00712	0.00963
Krystal 25 OTC / Brown	0.274	0.00105	0.273	3.74	0.00151	5.41e-05	0.0038	0.00552
Krystal 30 OTC / Brown	0.263	0.000875	0.262	3.8	0.00147	4.89e-05	0.0037	0.00553
Krystal ReFresh OTC	0.241	0.000859	0.241	3.07	0.00128	4.94e-05	0.00344	0.00435

c) Waste/Output Inventory Metrics:

Indicator/LCI Metric	HWD	NHWD	HLRW	ILLRW	MR	MER	EEel	EEheat
Unit	kg	kg	kg	kg	kg	kg	MJ	MJ
Krystal Shield OTC	0.0495	0.938	2.17e-06	5.37e-06	0.000148	2.86e-06	0.00281	0.00431
Krystal 25 OTC / Brown	0.0284	0.489	1.27e-06	3.15e-06	8.69e-05	1.15e-06	0.00163	0.00218
Krystal 30 OTC / Brown	0.0275	0.47	1.22e-06	3.03e-06	8.36e-05	1.11e-06	0.00156	0.00214
Krystal ReFresh OTC	0.024	0.443	1.07e-06	2.64e-06	7.24e-05	1.37e-06	0.00137	0.00208

ADDITIONAL ENVIRONMENTAL INFO

No regulated substances of very high concern are utilized on site.

REFERENCES

ISO Standards:

- ISO 6707-1: 2014 Buildings and Civil Engineering Works - Vocabulary - Part 1: General Terms
- ISO 14021:1999 Environmental Labels and Declarations - Self-declared Environmental Claims (Type II Environmental Labeling)
- ISO 14025:2006 Environmental Labels and Declarations - Type III Environmental Declarations - Principles and Procedures
- ISO 14040:2006 Environmental Management - Life Cycle Assessment - Principles and Framework
- ISO 14044:2006 Environmental Management - Life Cycle Assessment - Requirements and Guidelines
- ISO 14067:2018 Greenhouse Gases – Carbon Footprint of Products – Requirements and Guidelines for Quantification
- ISO 14050:2009 Environmental Management - Vocabulary
- ISO 21930:2017 Sustainability in Building Construction - Environmental Declaration of Building Products

EN Standards:

- EN 16757 Sustainability of construction works - Environmental product declarations – Product Category Rules for concrete and concrete elements.
- EN 15804 Sustainability of construction works - Environmental product declarations -Core rules for the product category of construction products.

Other References:

- USGBC LEED v4 for Building Design and Construction, 11 Jan 2019 available at https://www.usgbc.org/resources/pcr-committee-process-resources-part-b
- USGBC PCR Committee Process & Resources: Part B, USGBC, 7 July 2017 available at https://www.usgbc.org/resources/pcr-committee-process-resources-part-b.
- US EPA (2020) Advancing Sustainable Materials Management: 2018 Fact Sheet, https://www.epa.gov/sites/production/files/2021-01/documents/2018_ff_fact_sheet_dec_2020_fnl_508.pdf