SOPRASEAL LM 204 VP Liquid Applied Air Barrier Membrane

SOPREMA Inc.

ENVIRONMENTAL PRODUCT DECLARATION

ISO 14025:2006 and ISO 21930:2017

ASTM INTERNATIONAL

SOPREMA is pleased to present this Environmental Product Declaration (EPD) for the SOPRASEAL LM 204 VP. This EPD was developed in compliance with ISO 14025 and ISO 21930 and has been verified by Lindita Bushi, Ph.D., Athena Sustainable Materials Institute.

The LCA and the EPD were prepared by Vertima Inc. The EPD includes cradle-to-gate life cycle assessment (LCA) results.

For more information about SOPREMA, visit www.soprema.ca and www.soprema.us.

For any explanatory material regarding this EPD, please contact the program operator.

1. GENERAL INFORMATION

PCR GENERAL INFORMATION			
Reference PCR	Water-Resistive and Air Barriers ASTM International September 2017 to September 2023 (validity period)		
The PCR review was conducted by:	*Thomas P. Gloria (chair)* *Industrial Ecology Consultants* *t.gloria@industrial-ecology.com*	*Graham Finch* *RDH Builiding Science, Inc.*	*Paul H. Shipp* *USG Corporation*

EPD GENERAL INFORMATION		
Program Operator	ASTM International 100 Barr Harbor Drive, West Conshohocken, PA 19428 www.astm.org	
Declared Products	**SOPRASEAL LM 204 VP**	
EPD Registration Number EPD 552	**EPD Date of Issue** July 20, 2023	**EPD Period of Validity** July 19, 2028
EPD Recipient Organization	SOPREMA Inc. 1688, Jean-Berchmans-Michaud Drummondville (Quebec) J2C 8E9 Canada www.soprema.ca	

EPD Type/Scope and Declared Unit	**Year of Reported Manufacturer Primary Data**
Product specific cradle-to-gate EPD with declared unit of 1 m^2 of membrane	2021

Geographical Scope	**LCA Software**	**LCI Databases**	**LCIA Methodology**
North America	OpenLCA v.1.11.0	Ecoinvent 3.9.1 and US LCI	TRACI 2.1, CED LHV v1.0 and HHV v.1.01

This LCA and EPD were prepared by:	Chantal Lavigne, M.A Sc Vertima Inc. www.vertima.ca
This EPD and LCA were independently verified in accordance with ISO 14025:2006, ISO 14040:2006, ISO 14044:2006 and ASTM International PCR "Water-Resistive and Air Barriers" ☐ Internal ☒ External	Lindita Bushi Lindita Bushi, Ph.D. Athena Sustainable Materials Institute

LIMITATIONS

Environmental declarations from different programs (ISO 14025) may not be comparable.[1]

Furthermore, "*comparison of construction products using an EPD shall be carried out in the context of the construction works. Consequently, comparisons of the environmental performance of construction products using the EPD shall consider all the relevant information modules over the full life cycle of the products within the construction works. Such a comparison requires scenarios in the construction works context. The provision of ISO 14025:2066, 6.7.2 on comparability shall apply.*"[2] In sum, "EPDs based on a declared unit shall not be used for comparisons."[3]

The EPDs prepared from this report are not comparable as they are cradle-to-gate EPDs.

2. PRODUCT SYSTEM DESCRIPTION

SOPREMA is an international manufacturer specializing in the production of innovative products for waterproofing, insulation, soundproofing and vegetated solutions for the roofing, building envelope and civil engineering sectors. SOPREMA manufactures several types of water barriers and air barriers.

2.1. PRODUCT DESCRIPTION

SOPRASEAL LM 204 VP[1] is a single component, liquid applied, vapour permeable air barrier membrane which is based on hydro reactive elastomers. Used in wall constructions, this technology allows for a continuous and elastic adhesion to the substrate. The high solid content means that this product does not shrink significantly during the curing process.

SOPRASEAL LM 204 VP
[Photo courtesy of SOPREMA].

2.2. TECHNICAL DATA

Properties	Standards	SOPRASEAL LM 204 VP
Air Leakage Rate @ 75 Pa	ASTM E2357	0.0020 L/s•m^2
Air permeability @ 75 Pa	ASTM E2178	0.0004 L/s•m^2
Water resistance	AATCC 127	Pass
Moisture vapour permeance, (ng/Pa•s•m2 [perms]) @ 40 mils Method A Method B	ASTM E96	601 (10.5) 950 (16.6)
Tensile Strength (kN/m2 [lb/in2]) Elongation %	ASTM D412 (Die C)	1276 (185) 296

(All values are nominal)

[1] SOPRASEAL LM 204 VP is classified under the Construction Specification Institute (CSI) MasterFormat code 07 27 26 Fluid-Applied Membrane Air Barriers.

2.3. PROPERTIES OF DECLARED PRODUCT AS DELIVERED

Specifications	SOPRASEAL LM 204 VP
Colour	Blue
Specific gravity	1.08 kg/L (9.01 lb/gal)
Solids by weight	92%
More details are available at	https://www.soprema.ca/en/products-systems/sopraseal-lm-204-vp https://soprema.us/products/sopraseal-lm-204-vp/

(All values are nominal)

2.4. MATERIAL COMPOSITION

Component/Material	SOPRASEAL LM 204 VP
STPE polymer	40-50%
Base resin	2-5%
Mineral filler	10-15%
Calcium carbonate	10-15%
Plasticizer	2-5%
Adhesion promoter	0.5-2%
Fumed silica	0.5-2%
Additives	15-20%
TOTAL	**100.0%**

2.5. MANUFACTURING

Single-component, liquid-applied vapour-permeable air barrier made of synthetic rubbers is manufacturer by blending liquid and solid ingredients under controlled conditions to a desired consistency. The material is then poured into containers.

2.6. PACKAGING

Liquid membrane products are packaged in plastic pails and stacked on wooden pallets. The pallets are either protected by a pallet bag or a stretch film on which a label is placed.

SOPRASEAL LM 204 VP Packaging Materials per DU

Packaging	Material	SOPRASEAL LM 204 VP
Pallet	Wood (kg/m^2)	1.50E-02
Pallet bag, Stretch film	LDPE (kg/m^2)	3.98E-04
Plastic pail and lid	HDPE (kg/m^2)	3.38E-02

2.7. PRODUCT INSTALLATION

SOPRASEAL LM 204 VP is a liquid applied membrane. Due to its high solids content, the SOPRASEAL LM 204 VP product does not shrink significantly during the curing process; hence, the wet film thickness is similar to the dry film thickness of 0.50 mm (20 mil). It is spray-applied for the most effective application, but it can also be applied using a roller or a paint brush. Refer to the table below for product coverage and application temperatures.

Specifications	Coverage	Application temperature
SOPRASEAL LM 204 VP	1.895 m^2/l (77.3 ft^2/gal)	> -4°C (25°F)

2.8. REFERENCE SERVICE LIFE AND CONDITION OF USE

For this EPD, the system boundaries encompass a cradle-to-gate scope. Environmental impacts of products in the use phase are excluded from this declaration, per ASTM PCR Water-Resistive and Air Barriers.[3]

2.9. DISPOSAL

At their end-of-life, SOPREMA membranes are sent to landfill.

[Photo courtesy of SOPREMA]

3. LCA CALCULATION RULES

3.1. DECLARED UNIT

The selected declared unit (DU) for this study is **1 m² of membrane**.

Description	SOPRASEAL LM 204 VP
Declared unit	1 m²
Coverage (kg/m²)	0.569
Product density (kg/l)	1.078
Coverage rate (m²/l)	1.895
Dry thickness (mm)	0.508
Solids content by volume (%)	92%

3.2. PRODUCTION AVERAGE

No average is used for the products under study. SOPRASEAL LM 204 VP is produced at the facility located in Michigan (United States).

3.3. SYSTEM BOUNDARIES

According to ASTM's PCR,[3] the LCA modelling system boundaries can be **cradle-to-gate**, i.e., only cover the production life cycle stage as illustrated in **Table 1**. Within this life cycle stage, three (3) modules are considered, namely A-1) Extraction and upstream production, A-2) Transport to factory and A-3) Manufacturing. Construction (A-4; A-5), use (B-1 to B-7) and end-of-life (C-1 to C-4) stages are not included in this EPD. Figure 1 present the process flow diagram for SOPREMA's products. Neither green power nor CO_2 credits are used within the scope of this project.

Table 1: Description of the system boundary life cycle stages and related information modules

PRODUCTION STAGE			CONSTRUC-TION PROCESS STAGE		USE STAGE							END-OF-LIFE STAGE			
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
Extraction and Upstream Production	Transport to Factory	Manufacturing	Transport to site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction / Demolition	Transport to Waste Processing or Disposal	Waste Processing	Disposal of Waste
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Key: X = included; MND = module not declared (excluded)

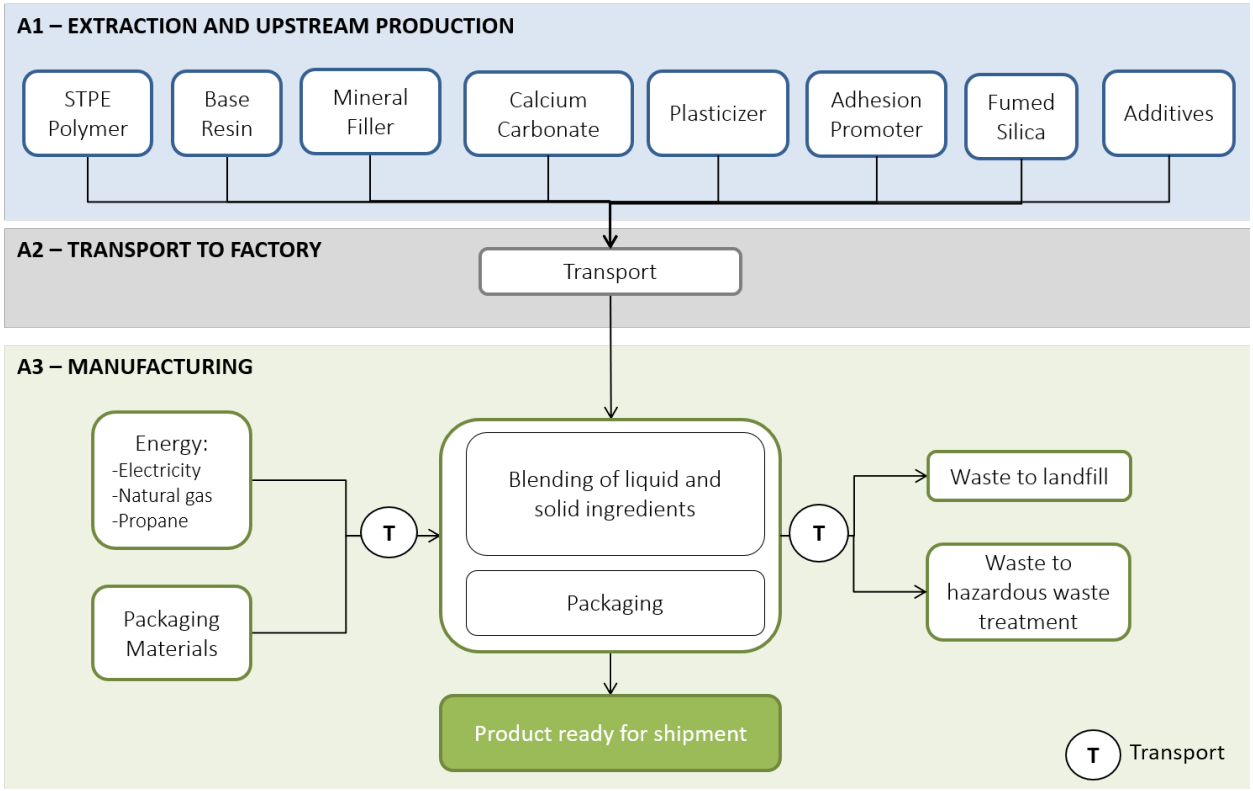


Figure 1: System Boundaries of Cradle-to-Gate LCA of SOPREMA's SOPRASEAL LM 204 VP liquid applied membranes.

Extraction and upstream production: This module includes the extraction and transformation of raw materials needed to produce the SOPRASEAL LM 204 VP liquid-applied air barrier membrane.

Transport to factory: This module includes the transportation of raw materials to the manufacturing facility located in the state of Michigan, USA.

Manufacturing: This stage includes electricity, natural gas and propane consumption as well as production waste, which is sent to the local landfill or hazardous waste treatment. The manufacturing process does not require water, nor does it emit emissions directly to air, water or soil.

Packaging materials to make products ready for shipment, as well as their transport to the manufacturing facility is also covered by this stage.

3.4. CUT-OFF CRITERIA

According to ISO 21930:2017, cut-off rules shall not be applied to hide data. All data shall be included. In the case of insufficient data, the cut-off criteria shall be 1% of energy or 1% of total mass input and 1% of environmental impacts of the unit process. The total cut-off input flows per modules shall be a maximum of 5% energy, mass and environmental impacts.

No known flows are deliberately excluded from this EPD.

For this EPD, no data on the construction, maintenance or dismantling of the capital assets, daily transport of employees, office work, business trips or other employee activities were included in the model. The model only takes into account the processes associated with infrastructure that are already included in the ecoinvent unit processes.

3.5. ALLOCATION

Allocation, if required, shall follow the requirements and guidance of ISO 14044:2006, Section 4.3.4.[3,4]

Energy data was provided for the entire manufacturing plants; thus, **mass allocation** was used to assign the share of energy consumed in the factory to the product under study.

Waste processing of the material flows undergoing **recycling processes** are included up to the system boundary of the end-of-waste state.[2] In other words, a **cut-off approach** was used as further processing of the recycled material is part of raw material preparation of another product system (open-loop recycling).

[Photo courtesy of SOPREMA]

3.6. DATA SOURCES AND QUALITY REQUIREMENTS

Data Quality Parameter	Data Quality Discussion
Source of manufacturing data	Manufacturing data was collected from a specific manufacturing facility, which represents 100% of the products' production. This data included total annual mass and area of products under study: raw materials entering the production of the products under study, losses of materials, transport distance of materials, waste treatment, and product packaging. The data also included electricity consumption for the entire manufacturing facilities as well as total annual production of all products produced.
Source of secondary data	Background data were taken from the ecoinvent 3.9.1 "cut-off" database.[5] Datasets were selected based on their representativeness of the products' composing materials. When appropriate, the dataset's grid mix was changed for the grid mix of the province or country where production takes places. Otherwise, ecoinvent data representative of the global market or "rest-of-the-world" were selected as proxies.
Geographical representativeness	Electricity consumption is based on the electricity mix provided by the electricity supplier. Geographical correlation of the material composing the product and the selected datasets are largely representative of the same area. When this was not possible, datasets representing a larger geographical area were taken.
Temporal representativeness	Primary data represents the 2021 production year. Life cycle inventory datasets from ecoinvent are not always published within the last 10 years; nevertheless, ecoinvent remains a reference LCI database.
Technological representativeness	Primary data, obtained from the manufacturer, is representative of the current technologies and materials used by this company.
Completeness	All relevant process steps were considered and modelled to satisfy the goal and scope. No known flows were cut off.

4. LIFE CYCLE ASSESSMENT RESULTS

4.1. RESULTS TABLES

It should be noted that Life Cycle Impact Assessment (LCIA) results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

Environmental Indicator		Unit
TRACI 2.1		
GWP_{100}-AR5(1)	Global warming potential	kg CO_2 eq.
GWP_{100}-AR4(2)	Global warming potential	kg CO_2 eq.
AP	Acidification potential	kg SO_2 eq.
EP	Eutrophication potential	kg N eq
ODP	Ozone layer depletion potential	kg CFC-11 eq.
SFP	Smog formation potential	kg O_3 eq
RDP	Resource depletion potential – fossil fuels	MJ Surplus
Resource Use		
PENR-fossil	Primary energy non-renewable, fossil	MJ, HHV
PENR-nuclear	Primary energy non-renewable, nuclear	MJ, HHV
PER-biomass	Primary energy renewable, biomass	MJ, HHV
PER-swhg	Primary energy renewable, solar, wind, hydroelectric and geothermal energy	MJ, HHV
Material Resources Consumption and Waste		
NRMR(3)	Non-renewable material resources	kg
RMR(4)	Renewable material resources	kg
NFW(5)	Net fresh water	L
HWD(6)	Hazardous waste disposed	kg
NHWD(7)	Non-hazardous waste disposed	kg

Table Notes – TRACI 2.1

(1) GWP 100, excludes biogenic CO2 removals and emissions associated with biobased products and packaging; 100-year time horizon GWP factors are provided by the IPCC 2013 Fifth Assessment Report (AR5).

(2): GWP 100, excludes biogenic CO2 removals and emissions associated with biobased products and packaging; 100-year time horizon GWP factors are provided by the IPCC 2007 Fourth Assessment Report (AR4).

Table Notes – Material Resource Consumption and Waste

(3): Calculated based on the product's material input

(4): The product does not contain renewable materials in its composition.

(5): Represents the use of net freshwater calculated from life cycle inventory results, i.e., water consumption using ReCiPe Midpoint (E) 2016.

(6): Calculated from life cycle inventory results, based on datasets classified under "treatment and disposal of hazardous waste." The manufacturer does not generate hazardous waste during the manufacturing process.

(7): Calculated from life cycle inventory results, based on waste that is neither "hazardous" nor "radioactive."

Additional Environmental Indicators		*Unit*
Resource Use		
RPR_E[1]	Renewable primary resources used as energy carrier (fuel)	MJ, LHV
RPR_M[2]	Renewable primary resources with energy content used as material	MJ, LHV
RPR_T	Renewable primary resources total	MJ, LHV
$NRPR_E$[3]	Non-renewable primary resources used as energy carrier (fuel)	MJ, LHV
$NRPR_M$[4]	Non-renewable primary resources with energy content used as material	MJ, LHV
$NRPR_T$	Non-renewable primary resources total	MJ, LHV
SM	Secondary materials	kg
RSF	Renewable secondary fuels	MJ, LHV
NRSF	Non-renewable secondary fuels	MJ, LHV
FW[5]	Use of net freshwater resources	m^3
Output Flows and Waste Categories		
HWD[6]	Hazardous waste disposed	kg
NHWD[7]	Non-hazardous waste disposed	kg
HLRW[8]	High-level radioactive waste, conditioned, to final repository	m^3
ILLRW[9]	Intermediate- and low-level radioactive waste, conditioned to final repository	m^3
CRU	Components for re-use	kg
MFR	Materials for recycling	kg
MER	Materials for energy recovery	kg
EE	Exported energy	MJ, LHV

Table Notes – Resource Use

(1): $RPR_E = RPR_T - RPR_M$, where RPR_T is equal to the value for renewable energy obtained using the CED LHV methodology.
(2): Calculated as per ACLCA ISO 21930 Guidance, 6.2 Renewable primary resources with energy content used as a material, RPR_M.
(3): $NRPR_E = NRPR_T - NRPR_M$, where $NRPR_T$ is equal to the value for non-renewable energy obtained using the CED LHV methodology.
(4): Calculated as per ACLCA ISO 21930 Guidance, 6.4 Non-renewable primary resources with energy content used as a material, $NRPR_M$.
(5): Represents the use of net freshwater calculated from life cycle inventory results, i.e., water consumption using ReCiPe Midpoint (E) 2016.

Table Notes – Output Flows and Waste Categories

(6): Calculated from life cycle inventory results, based on datasets classified under "treatment and disposal of hazardous waste." The manufacturer does not generate hazardous waste during the manufacturing process.
(7): Calculated from life cycle inventory results, based on waste that is neither "hazardous" nor "radioactive."
(8): Calculated from life cycle inventory results, based on ecoinvent waste flow "high-level radioactive waste for final repository."
(9): Calculated from life cycle inventory results, based on ecoinvent waste flow "low-level radioactive waste for final repository."

SOPRASEAL LM 204 VP					
Environmental Indicator	Unit	A1 (per m^2)	A2 (per m^2)	A3 (per m^2)	A1 - A3 (per m^2)
TRACI 2.1					
GWP_{100}-AR5[(1)]	kg CO_2 eq.	2.44E+00	3.38E-01	2.18E-01	3.00E+00
GWP_{100}-AR4[(2)]	kg CO_2 eq.	2.44E+00	3.37E-01	2.14E-01	2.99E+00
AP	kg SO_2 eq.	4.30E-03	2.94E-03	6.92E-04	7.94E-03
EP	kg N eq	4.82E-04	2.10E-04	5.18E-04	1.21E-03
ODP	kg CFC-11 eq.	9.09E-05	7.84E-10	6.65E-09	9.09E-05
SFP	kg O_3 eq	3.80E-02	8.48E-02	8.87E-03	1.32E-01
RDP	MJ Surplus	7.16E+00	4.26E-01	2.35E-01	7.82E+00
Resource Use					
PENR-fossil	MJ, HHV	5.47E+01	3.43E+00	4.41E+00	6.25E+01
PENR-nuclear	MJ, HHV	2.20E-01	3.09E-04	7.89E-01	1.01E+00
PER-biomass	MJ, HHV	2.04E+00	6.75E-04	6.76E-02	2.11E+00
PER-swhg	MJ, HHV	2.88E+00	5.13E-03	1.49E-01	3.03E+00
Material Resource Consumption and Waste					
NRMR[(3)]	kg	5.09E-01	0.00E+00	0.00E+00	5.09E-01
RMR[(4)]	kg	5.99E-02	0.00E+00	0.00E+00	5.99E-02
NFW[(5)]	L	1.26E+01	3.72E-02	1.68E+00	1.43E+01
HWD[(6)]	kg	1.26E-01	1.96E-03	8.74E-02	2.15E-01
NHWD[(7)]	kg	2.02E-01	2.97E-03	2.39E-01	4.44E-01

Table Notes – TRACI 2.1

(1) GWP 100, excludes biogenic CO2 removals and emissions associated with biobased products and packaging; 100-year time horizon GWP factors are provided by the IPCC 2013 Fifth Assessment Report (AR5).

(2): GWP 100, excludes biogenic CO2 removals and emissions associated with biobased products and packaging; 100-year time horizon GWP factors are provided by the IPCC 2007 Fourth Assessment Report (AR4).

Table Notes – Material Resource Consumption and Waste

(3): Calculated based on the product's material input.

(4): Calculated based on the product's material input.

(5): Represents the use of net fresh water calculated from life cycle inventory results, i.e., water consumption using ReCiPe Midpoint (E) 2016.

(6): Calculated from life cycle inventory results, based on datasets classified under "treatment and disposal of hazardous waste." The manufacturer does not generate hazardous waste during the manufacturing process.

(7): Calculated from life cycle inventory results, based on waste that is neither "hazardous" nor "radioactive."

SOPRASEAL LM 204 VP					
Environmental Indicator	Unit	A1 (per m^2)	A2 (per m^2)	A3 (per m^2)	A1 - A3 (per m^2)
Resource Use					
RPR_E[1]	MJ, LHV	2.84E+00	5.81E-03	2.16E-01	3.06E+00
RPR_M[2]	MJ, LHV	2.08E+00	0.00E+00	0.00E+00	2.08E+00
RPR_T	MJ, LHV	4.92E+00	5.81E-03	2.16E-01	5.14E+00
$NRPR_E$[3]	MJ, LHV	4.18E+01	3.07E+00	3.17E+00	4.81E+01
$NRPR_M$[4]	MJ, LHV	8.72E+00	0.00E+00	0.00E+00	8.72E+00
$NRPR_T$	MJ, LHV	5.06E+01	3.07E+00	3.17E+00	5.68E+01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW[5]	m^3	1.26E-02	3.72E-05	1.68E-03	1.43E-02
Output Flows and Waste Categories					
HWD[6]	kg	1.26E-01	1.96E-03	8.74E-02	2.15E-01
NHWD[7]	kg	2.02E-01	2.97E-03	2.39E-01	4.44E-01
RWD	kg	8.29E-04	8.22E-11	1.49E-07	8.29E-04
HLRW[8]	m^3	1.07E-10	2.26E-13	4.09E-10	5.17E-10
ILLRW[9]	m^3	1.51E-09	1.34E-12	3.47E-09	4.98E-09
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table Notes – Resource Use

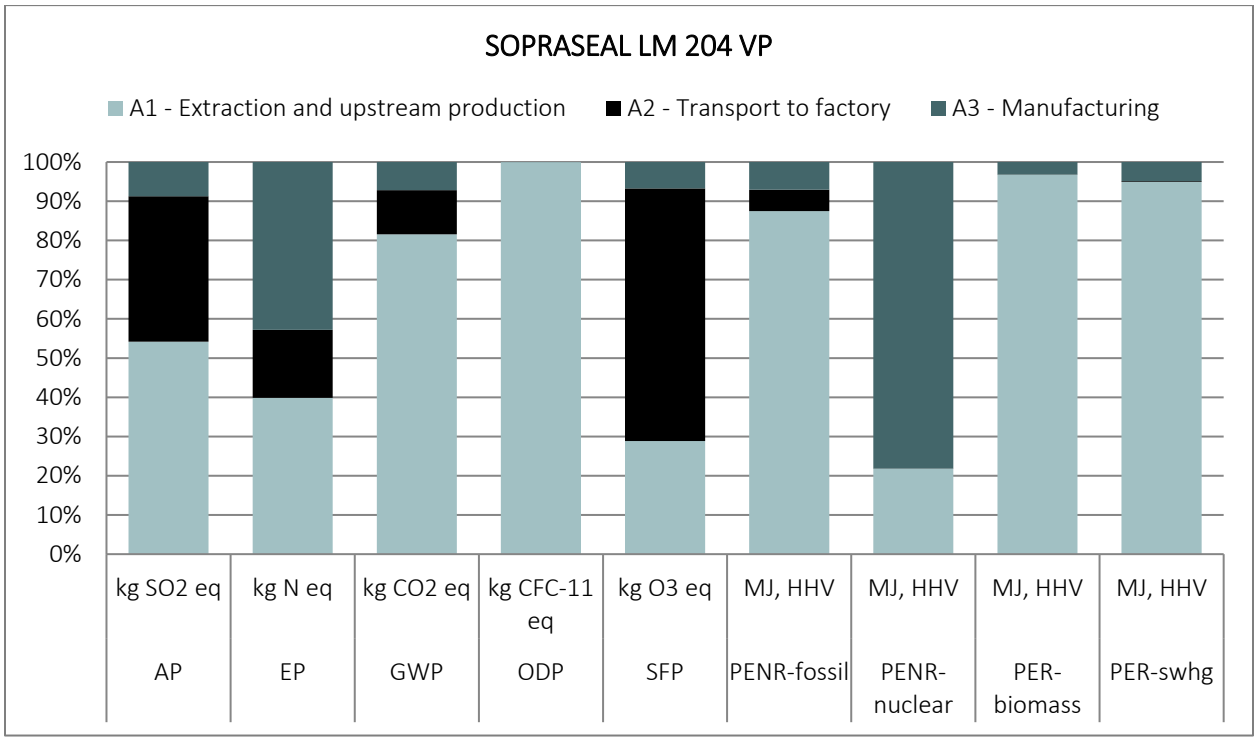
(1): $RPR_E = RPR_T - RPR_M$, where RPR_T is equal to the value for renewable energy obtained using the CED LHV methodology.
(2): Calculated as per ACLCA ISO 21930 Guidance, 6.2 Renewable primary resources with energy content used as a material, RPR_M.
(3): $NRPR_E = NRPR_T - NRPR_M$, where $NRPR_T$ is equal to the value for non-renewable energy obtained using the CED LHV methodology.
(4): Calculated as per ACLCA ISO 21930 Guidance, 6.4 Non-renewable primary resources with energy content used as a material, $NRPR_M$.
(5): Represents the use of net fresh water calculated from life cycle inventory results, i.e., water consumption using ReCiPe Midpoint (E) 2016.

Table Notes – Output Flows and Waste Categories

(6): Calculated from life cycle inventory results, based on datasets classified under "treatment and disposal of hazardous waste." The manufacturer does not generate hazardous waste during the manufacturing process.
(7): Calculated from life cycle inventory results, based on waste that is neither "hazardous" nor "radioactive."
(8): Calculated from life cycle inventory results, based on ecoinvent waste flow "high-level radioactive waste for final repository."
(9): Calculated from life cycle inventory results, based on ecoinvent waste flow "low-level radioactive waste for final repository."

4.2. CONTRIBUTION ANALYSIS

As seen in the figure below, results for SOPRASEAL LM 204 VP, transport (A2) is the main contributor to smog formation potential (SFP). The transport of STPE polymer (40-50 wt.% in product) over almost 2,000 km by truck is the greatest contributor to this module and impact category. Otherwise, manufacturing (A3) is the main contributor to eutrophication potential (EP) and primary energy non-renewable-nuclear (PENR-nuclear). For the balance of the impact categories, the extraction and upstream production (A1) module in the main contributor.



Contribution analysis of information modules A1-A3 of the SOPRASEAL LM 204 VP product life cycle stage - TRACI & CED indicators.

5. ADDITIONAL ENVIRONMENTAL INFORMATION

5.1. REGULATED HAZARDOUS SUBSTANCES

SOPRASEAL LM 204 VP causes skin irritation, may be fatal if swallowed and enters airways, may cause an allergic skin reaction and causes serious eye damage. Regulated hazardous substances are reported in the table below.

Table 2: SOPRASEAL LM 204 VP regulated hazardous substances

Ingredient name	%	CAS number	Reference standard
Amino silane	1-3	1760-24-3	GHS-US
Distillates (petroleum), Hydrotreated light	3-7	64742-47-8	GHS-US

5.2. DANGEROUS SUBSTANCES

SOPRASEAL LM 204 VP is a liquid product with a VOC content of < 75 g/L. Appropriate personal respiratory and skin protective equipment shall be worn when handling the product.

5.3. FURTHER INFORMATION

SOPREMA has also published a Health Product Declaration® for the SOPRASEAL LM 204 VP. More details are available on the HPDC public repository: https://www.hpd-collaborative.org/hpd-public-repository/.

Additional product information can be found on SOPREMA's website (https://www.soprema.ca/en/products-systems/building-components/walls/air-and-vapour-barrier or https://soprema.us/product-category/air-barriers/).

REFERENCES

[1] International Organization for Standardization (ISO), "ISO 14025 Environmental labels and declarations - Type III environmental declarations - Principles and procedures," 2006.

[2] International Organization for Standardization (ISO), "ISO 21930:2017(E) Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services," 2017.

[3] ASTM International, "Water-Resistive and Air Barriers PCR," 2017[Online]. Available: https://www.nsf.org/standards-development/product-category-rules.

[4] International Organization for Standardization (ISO), "ISO 14044:2006/AMD1:2017/AMD 2:2020 Environmental management - Life cycle assessment - Requirements and guidelines," 2006.

[5] F. R. *et al.*, "Overview and Methodology. ecoinvent report No. 1," Dübendorf, 2007.

[6] ASTM International, "ASTM Program Operator Rules. Version: 8.0, Revised 04/29/20," 2020[Online]. Available: www.astm.org.

[7] Vertima, "Life Cycle Assessment of SOPREMA's Air Barriers," 2023.

1688, Jean-Berchmans-Michaud
Drummondville (Quebec)
J2C 8E9 Canada

www.soprema.ca

310 Quadral Dr.
Wadsworth, OH
44281 USA

www.soprema.us

EPD

This LCA and EPD were prepared by Vertima Inc.

604 Saint Viateur Street
Quebec, QC
(418) 990-2800
G2L 2K8 CANADA

vertima
Environmental certification experts
vertima.ca