PLASTIGLAS MR

LATIN AMERICA EPD®

Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012

Cell-cast acrylic solid surface Novanite

Programme:	The International EPD® System EPD registered through the fully aligned regional programme/hub: EPD Latin America
Programme operator:	EPD International AB Regional Hub: EPD Latin America
EPD registration number:	S-P-01660
Issue date:	2019-11-13
Validity date:	2024-11-03
	An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com
Revision date:	2019-11-04
Geographical scope:	Mexico

EPD CONTENT

MR

PLASTIGLAS

Plastiglas de México S.A de C.V. was founded in 1959 as a manufacturer of acrylic sheets. In 2006, it was acquired by the Unigel Group, one of the most important petrochemical groups in Latin America, composed of eight manufacturing companies of a wide range of intermediate chemical products and acrylic sheet with presence in national and international markets in four business areas: chemical specialties, plastics, fertilizers and sodium cyanide.

Plastiglas, specialized in acrylic cell cast, has two plants in Mexico where a wide range of products are manufactured: general purpose, sanitary grade, high impact grade and NSF grade, with a wide applications in various market segments, such as displays, illuminated signs, promotional items and construction. The line of monolithic acrylics developed with high technology that allows diffusing light in a spectrum of color for various architectural applications in interiors and the line of solid surface, acylic bullet impact for the market segment of security.

At Plastiglas the commitment to the community, the environment and its customers is demonstrated by compliance with its corporate social responsibility policies, environmental safety and hygiene, quality and customer service. These principles guide their activities and decisions to achieve their objectives through a conscious and consistent commitment to comply with the regulations and exceed them through actions that benefit the interest groups, with the aim of creating value for the community and the environment.
In environmental matters since 2003, they comply with

the Clean Industry program with the recognition of PROFEPA, a certification that demonstrates their commitment to caring for the environment in the development of their activities.

Plastiglas, with a circular economy approach, uses in the manufacture of its products post-consumer materials from customers and acrylic scrap collectors, which are subjected to a process with high quality standards for recycling, thereby decreasing the use of natural resources, water and energy.

As a company in the chemical industry, Plastiglas de México has the certification in Integral Responsibility, granted by the National Association of the Chemical Industry (ANIQ), for the fulfillment of its commitment in the Implementation of the Comprehensive Responsibility Management System (SARI).

At Plastiglas the commitment to meet the requirements of customers in a systematic and reliable way is reflected by having their certification since 1998 in ISO 9001 for its Quality Assurance System. In order to guarantee a safe workplace, the company has voluntarily implemented the Health and Safety at Work Self-Management Program (PASST), which aims to promote companies to implement management systems in occupational safety and health.

Plastiglas, in its commitment to the physical and moral integrity of its personnel, sets in motion the Zero Tolerance policy to failures or breaches of the rules of Safety, Code of Ethics and Values Manual with the aim of promoting a culture of safety, labor responsibility and commitment to the environment, ensuring that the actions of personnel, contractors and visitors to our companies are in accordance with company policies.

This Environmental Product Declaration (EPD) is in accordance with ISO 14025 and EN 15804.

EPD of constructions products may not be comparable if they do not comply with EN 15804 Sustainability of constructions works – Environmental product declarations – Core rules for product category of construction products.

Environmental product declarations within the same product category but from different programmes may not be comparable.

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

2. GENERAL INFORMATION

Product:	**Cell-Novanite acrylic solid surface**
Declaration owner:	PLASTIGLAS S.A. de C.V. Frente Estación F.E.C.C. Maclovio Herrera S/N, Ocoyoacac, Estado de México, México Contact person: Raúl Zepeda Sanabria raul.zepeda@plastiglas.com.mx
Description of the construction product:	Novanite is a non-porous solid surface made of acrylic of high hardness and of easy maintenance with the appearance of natural stone and a wide range of trend colors and stone lines grouped in the series Standard Smooth, Smooth Color Trend, Standard Granite and Special Granite. The Novanite models included in this study are: NV-099, NV-100, NV-101, NV-201, NV-207, NV-211, NV-302 and NV-305.
Declared Unit:	1 metric ton of Novanite
Main product components:	Mineral load, base and regenerated resin, comonomer, additives, catalysts, pigmentation and granule.
Life cycle stages not considered:	Distribution, use, end of life.
Content of declaration:	This EPD is based on information modules that do not cover the aspects of use and end of life of the product. It contains in detail, for Module A1, A2 and A3: • Product definition and physical data. • Information about raw materials and origin. • Specifications on manufacturing the product. • LCA based on a declared unit, cradle-to-gate. • LCA results. • Evidence and verifications.
For more information consult:	www.plastiglas.com.mx
Site for which this EPD is representative:	Manufacturing Plant Ocoyoacac
Intended Public:	B2B (Business to Business)

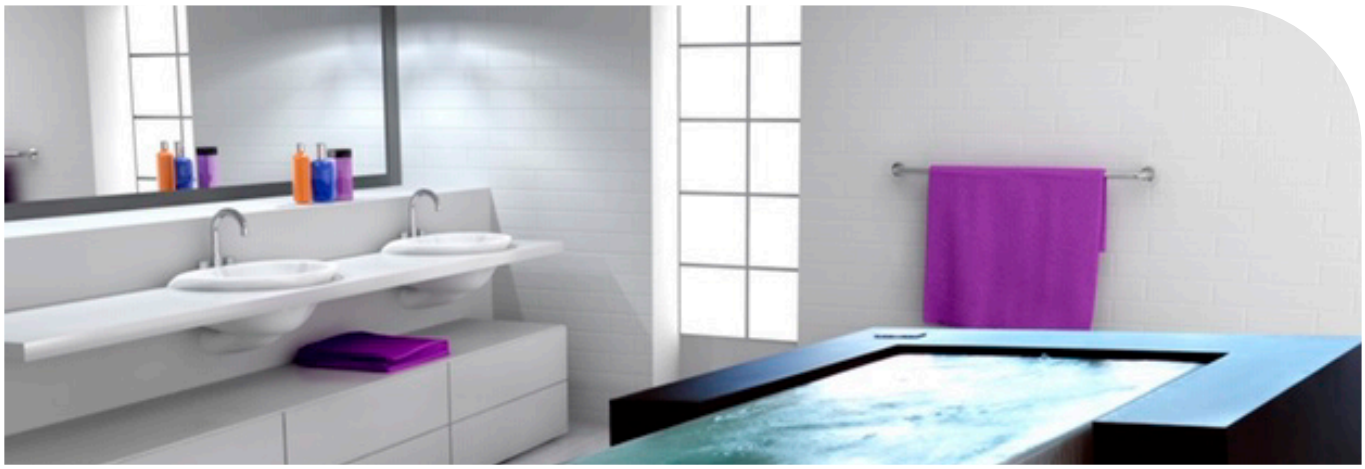
3. PRODUCT DESCRIPTION

APPLICATIONS:

- Kitchen Countertops.
- Vanity tops.
- Retail counter tops.
- Restaurant and cafe tables.
- Cabinetry.
- Reception counters and office desks.
- Commercial food preparation areas.
- Counter tops and wall covering in hospitals, laboratories and banks.
- Wall cladding in moisture applications.
- Signage

CHARACTERISTICS:

- Durable
- Aesthetic
- Easy to clean
- Hygienic surface
- Chemical Resistant
- Impact Resistant
- Heat resistant
- Flame retardant
- Renewable
- Inert • Versatile
- Maintenance
- Thermoformable
- Non-porous



3.1 TECHNICAL SPECIFICATIONS

Table 1 **TECHNICAL SPECIFICATIONS**

Thickness (mm)	Measures (cm)	
	244x122	244x76.5
6.0	●	●
12.0	●	●

3.2 MECHANICAL PROPERTIES

Table 2 **MECHANICAL PROPERTIES**

Properties	Value (Solid colors)	Value (Granites)	Reference norm
Density(g/cm3)	1.66	1.64	ASTM-D-792
Maximum strenght in tension (kpsi)	4.36	4.29	ASTM-D-638
Maximum tension elongation (%)	1.42	1.45	ASTM-D-638
Tension module (kpsi)	7757	6970	ASTM-D-638
Maximum strength in flexion (kpsi)	7.26	7.3	ASTM-D-790
Maximum elongation in flexion (%)	1.42	1.49	ASTM-D-790
Bending module(mPa)	4954	4744	ASTM-D-790
Rockwell hardness Scale M	86	85	ASTM-D-785
Hardness Barcol	58	58	ASTM-D-2583
Resistance to stains use and cleaning	Comply	Comply	ISFA-SST-3.1.00 NEMA-LD-3-3.4
Surface resistance to hot water	Comply	Comply	ISFA-SST-8.1.00 NEMA-LD-3-3.5
Resistance to high temperatures	Comply	Comply	ISFA-SST-9.1.00 NEMA-LD-3-3.6
Izod impact (lb-ft/in)	0.228	0.228	ASTM-D-256
Ball Impact Resistance	Comply	Comply	ISFA-SST-6.1-00 ANSI-Z124
Gardner impact (lb-inch) Total fracture (reference to 6 mm)	43	35	ASTM-D-3029
Resistance to cigarette burns	Comply	Comply	ANSI-Z124

4. CONTENT DECLARATION

Novanite products are manufactured with an average of 6.01% of recycled material. For reasons of confidentiality, in Table 3 is showed the average components of Novanite 099, NV-100, NV-101, NV-201, NV-207, NV-211, NV-302 and NV-305 according to their function.

Table 3 TYPICAL CONTENT OF NOVANITE PRODUCTS MANUFACTURED BY PLASTIGLAS

Element	Typical content
Mineral load	50%-60%
Base resin	30%-40%
Regenerated resin	5%-7%
Others	4%-5%

According to EN15804 declaration of material content in Table 4 is showed the substances that are part of the composition of Novanite products and their content exceeds 0.1% of the weight of the product, listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization.(ECHA, 2019)

Table 4 TYPICAL CONTENT OF NOVANITE PRODUCTS MANUFACTURED BY PLASTIGLAS

Novanite product	Name of product	CASRN	Function	Final product %	Substance name component	Substance component %	Candidate List of SHVC
All products	----(1)	Not available (mixture)	additive	0.74%	1-methyl-2-pyrrolidone	50.0%	Yes
					Lithium chloride	3.0%	No
					Not available	47.0%	-
Novanite-099	Secondary phtalate	117-81-7	additive	0.17%	Secondary phtalate	100%	Yes
Novanite-100				0.19%			
Novanite-101				0.19%			
Novanite-207				0.14%			

(1) The product name is not given above for confidentiality reason.

5. LCA RULES

Environmental potential impacts were calculated according to EN 15804:2012 and PCR 2012:01 Construction products and construction services Version 2.3 (2018-11-15). This EPD is in accordance with ISO 14025:2006.

Environmental potential impacts were calculated through Life Cycle Assessment (LCA) methodology according to ISO 14040:2006 and ISO 14044:2006. An external third-party verification process of the EPD was conducted according to General Programme Instructions for the International EPD® System Version 3.0. Verification includes a documental review and a validation of both the underlying LCA study and documents describing additional environmental information that justify data provided in the EPD.

5.1 DECLARED UNIT

ONE METRIC TON OF NOVANITE

5.2 SYSTEM BOUNDARY

The declared EPD is a "Cradle-to gate EPD" in line with ISO 14025:2006.

Table 5 **NOVANITE MANUFACTURED BY PLASTIGLAS PRODUCT SYSTEM**

LIFE CYCLE ENVIRONMENTAL INFORMATION OF ONE TON OF NOVANITE							Other environmental information
A1-A3			A4-A5		B1-B7	C1-C4	D
Product Stage			Construction process stage		Use stage	End of life stage	Reuse recovery stage
A1	A2	A3	A4	A5	B1-B7	C1-C4	C1-C4
Production of raw materials (mineral load, base and regenerated resin, and others), packaging of raw materials, generation and use of electric power, production and processing of natural gas used during manufacturing.	Transport of raw materials (base and regenerated resin, additives and others), natural gas and internal transportation.	Production and consumption of auxiliary materials: packaging. Waste transport and waste treatment. Emissions to air and water from Plastiglas operations.	Product distribution	Construction and installation	Use, maintenance, repair, replacement, refurbishment, operational energy use, operational water use.	De-construction, demolition, transport, waste processing, disposal	Re-use-Recovery-Recycling-potential
X	X	X	MND	MND	MND	MND	MND
Cradle-to-gate One ton of Novanite			These stages are not considered in the present study that allows the scope to be from cradle to grave				

*Included = x *MND = Module Not Declared

Description of information modules is included in Table 6.

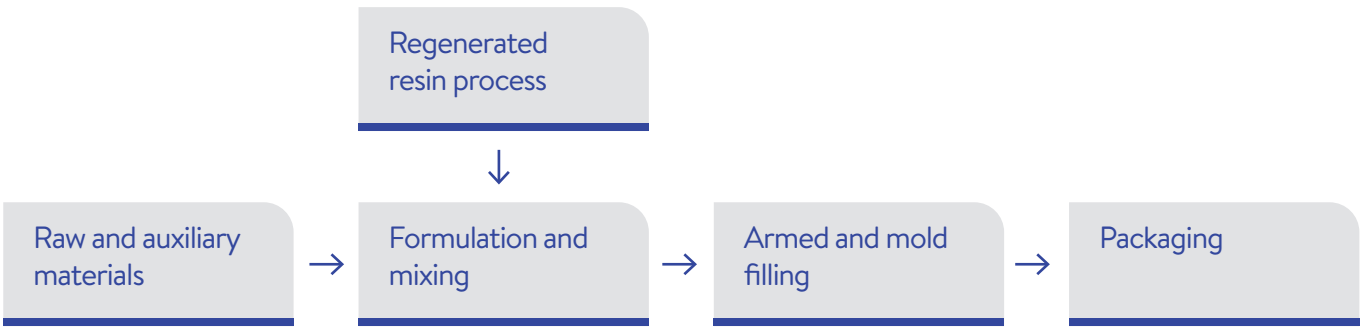
Table 6 **DESCRIPTION OF INFORMATION MODULES INCLUDED IN THIS EPD.**

A1) RAW MATERIALS SUPPLY	A2) TRANSPORTATION	A3) MANUFACTURING
•Production of raw materials: mineral load, basin and regenerated resin and others. • Production of packaging materials for raw materials. • Generation and distribution of the electricity consumed in manufacturing. • Generation and distribution of the natural gas consumed in manufacturing.	• Transportation of raw materials and packaging. • Transportation of acrylic waste. • Transportation of auxiliary materials. • Internal transportation requirements.	• Consumption of fresh water. • Production and consumption of auxiliary materials. • Waste generation and waste management processes. • Emissions to air. • Transport of waste to the treatment and final disposal site.

5.3 DESCRIPTION OF THE MANUFACTURING PROCESS

The manufacturing process is described in Figure 1:

Fig. 1 **FLOW DIAGRAM OF NOVANITE MANUFACTURED PROCESS**



5.4 ASSUMPTIONS

• In cases where only the country of origin of the raw material or auxiliary input was available, the capital was considered as the city of origin.
• The packaging of raw materials is manufactured in the same place of origin of the raw material.
• Acrylic waste for obtaining secondary material comes in the following proportions from the following Mexican cities: Mexico City (50%), Guadalajara, Jalisco (20%) and Monterrey, Nuevo León (30%).
• Gasoline, diesel and natural gas comes from Mexican refineries.

5.5 CUT-OFF CRITERIA

A minimum of 95% of the total flows (matter and energy) in modules A1 and A3 modules were included. Company infrastructure, employee's transportation and administrative were kept out of the scope of this study.

5.6 ALLOCATION

Allocation of inputs and outputs of the system was bases on a mass relation, considering the quantity produced per year of each product at the level of unit process.

The polluter pays principle was applied for the allocation procedure during recycling. In those cases, in wich output material for recycling were presented, the transportation to recycling plant was included. The principle was applied to plastic and metal containers, corrugated board and wooden pallets recycled by a third party.

For generic data Mexicaniuh and Ecoinvent 3.3 (Allocation - Recycled Content version) databases were used.

5.7 TIME REPRESENTATIVENESS

Direct data obtained from Plastiglas is representative for 2017.

5.8 DATA QUALITY ASSESSMENT

Data quality assessment per information module is provided in Tables 7, 8 and 9.

Table 7 **RAW MATERIAL SUPPLY MODULE DATA QUALITY ASSESSMENT**

Properties	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Consumption of raw materials, energy and manufactured of base resin	2017	Brazil	Modern	Unigel	M
Consumption of acrylic waste, energy and manufactured of secondary material process	2017	Mexico	Modern	Plastiglas	M
Consumption of materials and energy in mineral load manufacturing process	2017	China	Modern	Ecoinvent 3.3 adapted	M
Consumption of raw materials and auxiliary supplies	2017	Mexico	Modern	Plastiglas	M
Consumption of electric energy in the process	2017	Mexico	Modern	Plastiglas	M
Consumption of fuels and emissions related to the generation and distribution of electricity in Mexico	2017	Mexico	Technologic mix for Mexico	Mexicaniuh	M&E
Consumption of energy and emissions related to natural gas production in Mexico	2017	Mexico	Technologic mix for Mexico	Mexicaniuh	M&E

M&E: Measured and Estimated, M: Measured, E: Estimated

Table 8 **TRANSPORTATION MODULE DATA QUALITY ASSESSMENT DATA**

Properties	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Transport distance of raw materials	2017	Mexico	N/A	Plastiglas	M
Transport distance of natural gas	2017	Mexico	N/A	Google maps	E
Transport distance of auxiliary supplies	2017	Mexico	N/A	Plastiglas	M
Consumption of materials, energy and emissions related to the transport requirements of raw materials and auxiliary inputs.	1992-2014	Mix european	Mix european	Ecoinvent 3.3	M&E
Internal transport	2017	Mexico	N/A	Plastiglas	M

M&E: Measured and Estimated, M: Measured, E: Estimated

Table 9 **MANUFACTURE MODULE DATA QUALITY ASSESSMENT**

Properties	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Production performance	2017	Mexico	Modern	Plastiglas	M
Consumption of auxiliary materials during manufacturing	2017	Mexico	Modern	Plastiglas	M
Consumption of energy and materials for the manufacture of auxiliary materials.	1990 - 2017	Worldwide average based on Europe	Worldwide average based on Europe	Ecoinvent 3.3	M&E
Waste generation during manufacture	2017	Mexico	Modern	Plastiglas	M
Processes of waste treatment, consumptions of materials and related energy	1990 - 2017	Worldwide average based on Europe	Worldwide average based on Europe	Ecoinvent 3.3	M&E
Emissions to air and water during the manufacturing process	2017	Mexico	Modern	Plastiglas	M
Waste transport distance	2017	Mexico	Modern	Plastiglas / Google Maps	M
Consumption of materials and energy and emissions related to waste transport requirements	1992-2014	Worldwide average based on Europe	Worldwide average based on Europe	Ecoinvent 3.3	M&E

M&E: Measured and Estimated, M: Measured, E: Estimated

6. ENVIRONMENTAL PERFORMANCE

The difference in the environmental performance of Novanite products NV-099, NV-100, NV-101, NV-201, NV-207, NV-211, NV-302 and NV-305 is less than 10%, therefore and in according to the PCR 2012-01 v-2.3, Novanite 100 is the product representative of the system.

The Table 10 shows the parameters describing environmental potential impacts calculated using CML-IA method version 3.04 (Guinee et al. 2001; Huijbregts et al. 2003; Wegener et al. 2008) as implemented in SimaPro 8.4 for each product under study. Water scarcity potential was calculated using AWARE method (Boulay et al. 2018).

Table 10 **ENVIRONMENTAL POTENTIAL IMPACTS PARAMETERS FOR ONE TON OF NOVANITE PRODUCTS**

Categories	Units	NV-99	NV-100	NV-101	NV-201	NV-207	NV-211	NV-302	NV-305
Abiotic depletion (minerals)	kg Sb eq	1.39E-02	1.39E-02	1.39E-02	1.37E-02	1.36E-02	1.37E-02	1.37E-02	1.38E-02
Abiotic depletion (fossil fuels)	MJ	50 881	50 884	50 882	51 332	51 196	51 476	51 376	51 032
Global warming (GWP100a)	kg CO_2 eq	2 267	2 266	2 266	2 274	2 263	2 283	2 276	2 265
Ozone layer depletion (ODP)	kg CFC-11 eq	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.78E-04	2.81E-04	2.80E-04	2.79E-04
Photochemical oxidation	kg C_2H_4 eq	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Acidification	kg SO_2 eq	24.4	24.4	24.4	24.3	24.2	24.4	24.3	24.3
Eutrophication	kg PO_4^{3-} eq	2.9	2.9	2.9	2.9	2.8	2.9	2.9	2.8
Water scarcity	m^3 eq	1 265	1 264	1 246	1 257	1 264	1 257	1 264	1 259

Table 11 shows the difference between product with respect to Novanite 100, the representative product.

Table 11 **ENVIRONMENTAL POTENTIAL IMPACTS DIFFERENCE (%) BETWEEN PRODUCTS RESPECT TO NOVANITE 100**

Categories	NV-99	NV-100	NV-101	NV-201	NV-207	NV-211	NV-302	NV-305
Abiotic depletion (minerals)	0.20%	0.00%	-0.01%	-1.21%	-1.73%	-0.88%	-1.34%	-0.78%
Abiotic depletion (fossil fuels)	-0.01%	0.00%	0.00%	0.88%	0.61%	1.16%	0.97%	0.29%
Global warming (GWP100a)	0.05%	0.00%	-0.01%	0.34%	-0.15%	0.75%	0.44%	-0.04%
Ozone layer depletion (ODP)	-0.02%	0.00%	-0.01%	0.37%	0.07%	0.89%	0.67%	0.14%
Photochemical oxidation	0.08%	0.00%	-0.01%	0.03%	-0.31%	0.16%	-0.07%	-0.24%
Acidification	0.12%	0.00%	-0.01%	-0.39%	-0.76%	-0.25%	-0.51%	-0.47%
Eutrophication	0.09%	0.00%	-0.01%	-0.08%	-0.62%	0.28%	-0.06%	-0.32%
Water scarcity	0.05%	0.00%	-1.44%	-0.55%	0.00%	-0.55%	0.03%	-0.38%

6.1 USE OF RESOURCES

Parameters describing resource use were evaluated with the Cumulated Energy Demand method version 1.09 (Frischknecht et al. 2007) except for the indicator of use of net fresh water that was evaluated with Recipe 2016 Midpoint (H) version 1.00 (Huijbregts et al. 2017). The detailed description of the use of resources is provided in Table 12.

Table 12 **RESOURCE INDICATORS PER METRIC TON OF NOVANITE**

Parameter	Unit	Total	A1) Raw materials supply	A2) Transportation	A3) Manufacturing
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	9 827	9 083	116	627
Use of renewable primary energy as raw materials	MJ	0	0	0	0
Total use of renewable primary energy resources	MJ	9 827	9 083	116	627
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	52 453	45 392	6 903	159
Use of non-renewable primary energy used as raw materials	MJ	0	0	0	0
Total use of non-renewable primary energy resources	MJ	52 453	45 392	6 903	159
Use of secondary material	kg	61	0	0	61
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non-renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m^3	1 121	1,114	1.30	5.50

6.2 POTENTIAL ENVIRONMENTAL IMPACT

All information modules are reported and value separately. However, in the present EPD presents itself the total impact across all stage.

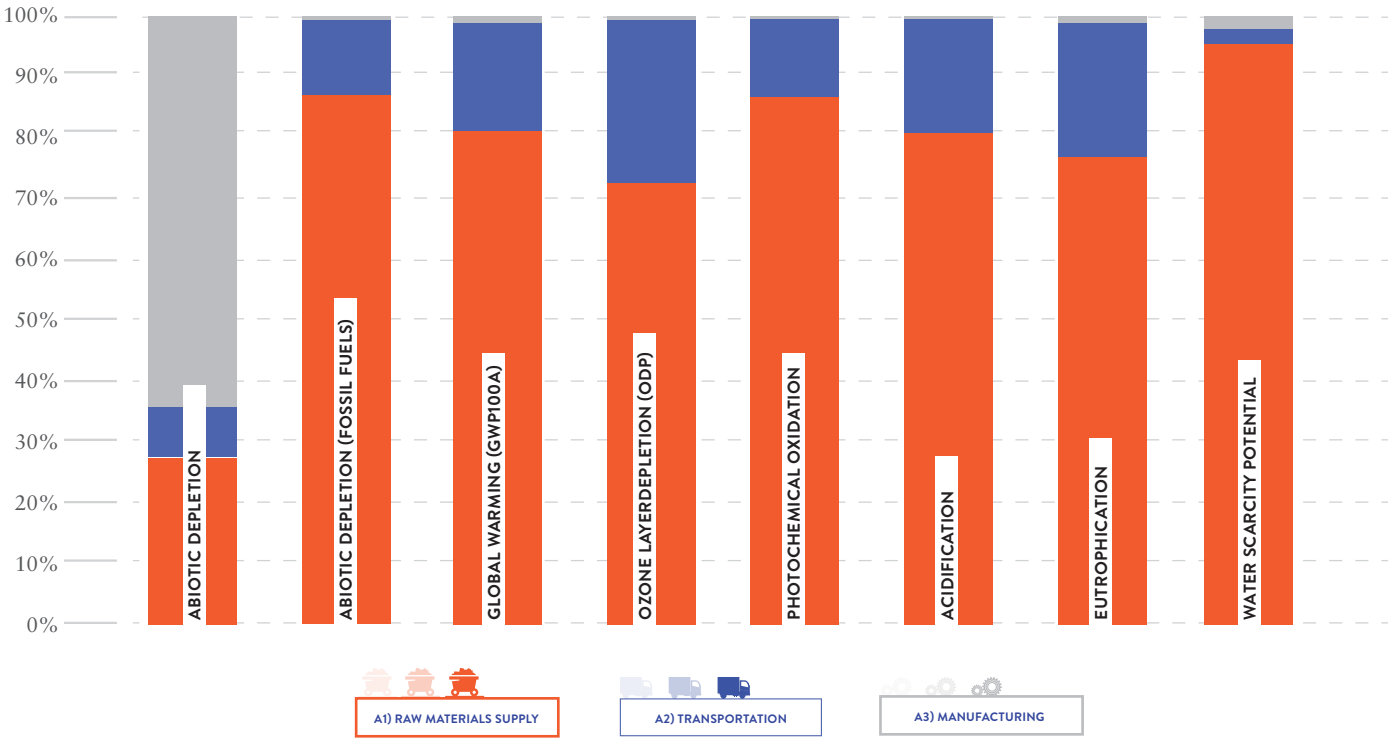
Parameters describing environmental potential impacts were calculated using CML-IA method version 3.04 (Guinee et al. 2001; Huijbregts et al. 2003; Wegener et al. 2008) as implemented in SimaPro 8.4. Water scarcity potential was calculated using AWARE method (Boulay et al. 2018).

The Table 13 shows the potential environmental impact indicators representative for Novanite products and Figure 2 the potential environmental impact contribution.

Table 13 **POTENTIAL ENVIRONMENTAL IMPACT INDICATORS PER METRIC TON OF NOVANITE**

Categories	Unit	A1) Raw materials supply	A2) Transportation	A3) Manufacturing	Total	A4-A5, B1-B2 C1-C4, D
Abiotic depletion (minerals)	kg Sb eq %	3.84E-03 28%	1.17E-03 8%	8.85E-03 64%	1.39E-02 100.0%	Modules not declared
Abiotic depletion (fossil fuels)	MJ %	4.40E+04 86%	6.74E+03 13%	1.52E+02 0.3%	5.09E+04 100.0%	
Global warming (GWP100a)	kg CO_2 eq %	1.81E+03 80%	4.32E+02 19%	1.93E+01 1%	2.27E+03 100.0%	
Ozone layer depletion (ODP)	kg CFC-11 eq %	2.02E-04 73%	7.48E-05 27%	1.57E-06 1%	2.78E-04 100.0%	
Photoche-mical oxidation	kg C_2H_4 eq %	1.11E+00 87%	1.66E-01 13%	6.49E-03 1%	1.29E+00 100.0%	
Acidification	kg SO_2 eq %	1.97E+01 81%	4.61E+00 19%	1.29E-01 1%	2.44E+01 100.0%	
Eutrophication	kg PO_4^{3-} eq %	2.21E+00 77%	6.09E-01 21%	3.52E-02 1%	2.85E+00 100.0%	
Water scarcity	m^3 eq %	1.22E+03 97%	2.63E+01 2%	1.28E+01 1%	1.26E+03 100.0%	

Fig. 2 **POTENTIAL ENVIRONMENTAL IMPACT CONTRIBUTION PER METRIC TON OF NOVANITE**



6.1 USE OF RESOURCES

Environmental indicators describing waste generation were obtained from LCI except for background information which has been calculated using EDIP 2003 method (Hauschild and Potting, 2005). Table 14 shows waste and other outputs generated during each information module.

Table 14 **WASTE AND OTHER OUTPUTS PER METRIC TON OF NOVANITE**

Output parameter	Unit	Total	A1) Raw materials supply	A2) Transportation	A3) Manufacturing	
					Direct	Indirect
Hazardous waste	kg	0.02	0.02	4.28E-03	0	1.49E-04
Non hazardous waste	kg	566	402	161	0	2.2
Radioactive waste*	kg	0.1	0.1	0.04	0	6.00E-04
Components for reuse	kg	2.6	0	0	2.6	0
Materials for recycling	kg	0.1	0	0	0.1	0
Materials for energy recovery	kg	5	0	0	5	0
Exported electricity	MJ	0	0	0	0	0
Exported heat	MJ	0	0	0	0	0

* Not related to the generation of waste during the manufacture of Novanite.

7. VERIFICATION AND REGISTRATION

Programme:	International EPD® System www.environdec.com EPD registered throug the fully alligned regional programme/hub: EPD Latin America www.epdlatinamerica.com
Programme operator:	EPD I nternational AB Box 210 60 SE-100 31 Stockholm, Sweden EPD Latin America Chile: Alonso de Ercilla 2996, Ñuñoa, Santiago Chile. México: Av. Convento de Actopan 24 Int. 7A, Colonia Jardines de Santa Mónica, Tlalnepantla de Baz, Estado de México, México, C.P. 54050
EPD registration number:	S-P-01660
Date of publication (issue):	2019-11-13
Date of validity:	2024-11-03
Date of revision:	2019-11-04
Reference year of data:	2017
Geographical scope:	Mexico
Central product classification:	UN CPC 36950 Builder´s ware of plastic n.e.c
PCR:	2012:01 Construction products and construction services, Version 2.3 (2018-11-15)
PCR review was conducted by:	The Technical Committee of the International EPD® System. Chair: Massimo Marino. C ontact via info@environdec.com
Independent verification of the declaration data, according to ISO 14025:2006.	☐ E PD process certification (Internal) ☑ EPD verification (External)
Third-party verifier: A pproved by:	R uben Carnerero Approved EPD verifier r.carnerero@ik-ingenieria.com The International EPD® System
Procedure for follow-up of data during EPD validity involves third-party verifier:	☐ Yes ☑ No

8. CONTACT INFORMATION

EPD OWNER

Plastiglas S.A. de C.V.
Frente Estación F.F.C.C.
Maclovio Herrera S/N,
Ocoyoacac, Estado de México.
C.P. 52740

www.plastiglas.com.mx

Contact person:
Raúl Zepeda Sanabria
raul.zepeda@plastiglas.com.mx

LCA AUTHOR

Center for Life Cycle Assessment and Sustainable Design – CADIS

Bosques de Bohemia 2 No. 9,
Bosques del Lago.
Cuautitlán Izcalli, Estado de México,
México
CP 54766
www.centroacv.mx

LCA study: Análisis de ciclo de vida de Novanite.

LCA Authors: Vulling M, Chargoy JP, Martínez A.

Contact person:
Juan Pablo Chargoy
jpchargoy@centroacv.mx

EPD OWNER

EPD International AB

Box 210 60, SE-100 31,
Stockholm, Sweden.

www.environdec.com
info@environdec.com

EPD registered through the fully aligned regional programme/hub:

EPD Latin America
www.epd-latinamerica.com

Chile:
Alonso de Ercilla 2996, Ñuñoa, Santiago Chile.

Mexico:
Av. Convento de Actopan 24 Int. 7A,
Colonia Jardines de Santa Mónica,
Tlalnepantla de Baz, Estado de México,
México, C.P. 54050

9. REFERENCES

• Boulay AM, Bare J, BeniniL, Berger M, Lathuillière MJ, Manzardo A, Margni M, Motoshita M, Núñez M, Valerie-Pastor A, Ridoutt B, Oki T, Worbe S, Pster S (2018) The WULCA consensus characterization model for water scarcity footprints: assessing impacts of water consumption based on available water remaining (AWARE). The International Journal of Life Cycle Assessment. Volume 23, Issue 2, pp 368–378. https://-doi.org/10.1007/s11367-017-1333-8.

• EN 15804:2012+A1:2013 (Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products).

• EPD International (2017) Construction products and construction services. 2012:01 Version 2.2 2017-05-30. www.environdec.com.

• EPD International (2017) General Programme Instructions for the International EPD® System. Version 3.0 dated 2017-12-11. www.environdec.com.

• Frischknecht R, Jungbluth N, Althaus HJ, Bauer C, Doka G, Dones R, Hischier R, Hellweg S, Humbert S, Köllner T, Loerincik Y, Margni M, Nemecek T (2007) Implementation of Life Cycle Impact Assessment Methods Data v2.0. ecoinvent report No. 3. Swiss Centre for Life Cycle Inventories, Dübendorf.

• Guinee JB, Marieke G, Heijungs R, Huppes G, Kleijn R, van Oers L, Wegener S, Suh S,Udo de Haes HA, de Bruijn H, van Duin R, Huijbregts MAJ (2001). Handbook on Life Cycle Assessment, Operational guide to the ISO standards Volume 1, 2a, 2b and 3. Springer Netherlands. DOI 10.1007/0-306-48055-7. Series ISSN 1389-6970

• Hauschild M, Potting J (2005) Spatial differentiation in Life Cycle impact assessment - The EDIP2003 methodology. Institute for Product Development Technical University of Denmark.

• Huijbregts MAJ, Steinmann ZJN, Elshout PMF, Stam G, Verones F, Vieira M, Zijp M, Hollander A, van Zelm R. ReCiPe2016: a harmonised life cycle impact assessment method at midpoint and endpoint level. International Journal on Life Cycle Assessment Volume 22 Issue 2. pp 138-147. https://-doi.org/10.1007/s11367-016-1246-y

• UN (2015) Central Product Classification (CPC) Version 2.1. Department of Economic and Social Affairs. Statistics Division. United Nations, New York.

• Vulling M, Chargoy JP, Martínez A (2019). Análisis de Ciclo de Vida de Novanite Plastiglas de México S.A. de C.V. Centro de Análisis de Ciclo de Vida y Diseño Sustentable (CADIS). México

• Wegener AS, van Oers L, Guinée JB, Struijs J, Huijbregts MAJ (2008) Normalisation in product life cycle assessment: An LCA of the global and European economic systems in the year 2000. Science of The Total Environment. Volume 390, Issue 1. Pages 227-240. ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2007.09.040.