





**NU Green 2®**

NU Green 2® is a ULEF (Ultra-Low Emission Formaldehyde) raw particleboard. It is the lowest-priced environmentally friendly board on the market. This new product is FSC® certified (Forest Stewardship Council®) and ECC™ certified (Eco-Certified Composite by the Composite Panel Association). It is made using 100% pre-consumer recycled or recovered wood fiber, which saves trees and avoids landfill.

**VALIDATED ECO-DECLARATION**
**Product's contribution to LEED® v4**

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PRODUCT SPECIFICATIONS	ENVIRONMENTAL IMPACTS	TECHNICAL PERFORMANCES
<b>Reference</b> Particleboard Nu Green 2®  <b>Final manufacturing location</b> Sayabec, Quebec G0J 3K0 CANADA  <b>Composition</b> Wood particles, MUF resin, water, scavenger, catalyst	<b>Life Cycle Assessment</b> -  <b>Product's carbon footprint</b> -  <b>Environmental Product Declaration</b> Industry-wide (generic) ISO 14025:2006, Type III (Nov.2013 to Nov.2018)	<b>Performance tests</b> ANSI A208.1-2009 (Grade M-2) / ASTM E84  <b>Expected life</b> -
<b>ATTRIBUTES</b>  <b>Recycled content</b> Pre-consumer: 84% - 88% Post-consumer: 0%  <b>Regional content</b> The origin and extraction location of raw materials have been documented for 84% - 88% of the final product weight ratio.  <b>FSC® Certification</b> RA-COC-002726 (When specified)	<b>INGREDIENTS AND EMISSIONS</b>  <b>Declaration of chemical ingredients</b> 1,000 ppm  <b>Type of declaration</b> HPD® version 1.0 Health Product Declaration®  <b>Emission test</b> -  <b>VOCs</b> -  <b>Formaldehyde</b> ≤ 0.04 ppm  <b>Others</b> CARB 93120 (Phase 2) Compliant Ultra-Low Emission Formaldehyde (ULEF) Certified	<b>MANUFACTURER'S ENVIRONMENTAL MANAGEMENT</b>  <b>ISO 14001 Certification</b> -  <b>Extended Producer Responsibility</b> (Take back program) -  <b>Corporate Sustainability Reporting</b> - (CSR: GRI, ISO 26000, BNQ 21000 or other)
<b>Rapidly renewable materials</b> -  <b>Biobased materials</b> -		<b>CERTIFICATIONS AND CONFORMITY REPORTS</b>    

Uniboard Canada Inc. is a leading North American manufacturer of engineered wood products, with installed capacity of over 640 million square feet of raw particleboard, high-density and medium-density fiberboard, of which over 50% is converted into value-added melamine, laminated and engineered flooring products.

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# ENVIRONMENTAL DATA SHEET

NU GREEN 2®



NU Green 2® Ultra-Low Emission Formaldehyde (ULEF) particleboard uses a fast-curing resin technology resulting in a product that is environmentally friendly, economical and exceeds the standards of CARB Phase 2. Formaldehyde emissions from NU Green 2® particleboard are less than or equal to 0.04 ppm. It can be ordered in the industry's widest selection of sizes and thicknesses.

## ATTRIBUTES

### RECYCLED CONTENT

Components	Weight ratio	Pre-consumer	Post-consumer
Wood particles	84% - 88%	100%	0%
Final product	Weight ratio	Pre-consumer	Post-consumer
NU Green 2®	100%	84% - 88%	0%

Validated Eco-Declaration - Recycled Content

Methodology: on-site audit, supply chain evaluation, analysis and validation of the recycled content data according to the weight ratio of each of the components used in manufacturing the final product.

Vertima's procedure: VERT-032008-01, First Edition.

### REGIONAL CONTENT

Weight ratio	Final manufacturing location
100%	Sayabec, Quebec G0J 3K0 CANADA

Validated Eco-Declaration - Regional Content

Methodology: on-site audit, supply chain evaluation, analysis and validation of the regional content data according to the weight ratio of each of the components used in manufacturing the final product.

Vertima's procedure: VERT-032008-02, First Edition.

Product components	Weight ratio	Extraction locations	Transportation
Wood particles	84% - 88%	Quebec and New-Brunswick	Road
Melamine based resin (MUF)	7% - 8%	N/A	N/A
Water	5% - 6%	N/A	N/A
Others	0.5% - 1.5%	N/A	N/A

The extraction location has been documented for 84% - 88% of materials of the final product components, based on weight ratio.

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Validated Eco-Declaration:  
**VED16-1068-02**  
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### ATTRIBUTES (CONTINUED)

### REGIONAL CONTENT (CONTINUED)



### 1. HARVEST LOCATIONS OF WOOD PARTICLES: (Details available upon request)

**Canada:** Quebec and New-Brunswick (Shipped by road to Uniboard Sayabec mill)

### ATTRIBUTES (CONTINUED)

#### FSC® CERTIFICATION

FSC®-Certified NU Green 2® (When specified)

	NU Green 2®	% Wood Component	% FSC®-Certified Wood	Total % FSC®-Certified wood used in the final assembly of the product versus the total weight of the wood components (based on weight ratio)
	Wood particles	84% - 88%	84% - 88%	100%
	Uniboard mill	Certification number	Type of certification	Period of validity
	Sayabec, Quebec CANADA	RA-COC-002726	Controlled wood, FSC Mix	2012/11/05 to 2017/11/05

Validated Eco-Declaration - FSC® -Certification

Methodology: on-site audit, supply chain evaluation and validation of FSC®-certification documents confirming the type of certification and calculation, based on FSC certified wood weight ratio in the final product.

Vertima's procedure: VERT-032008-03, First Edition.

### INGREDIENTS AND EMISSIONS

#### ENVIRONMENTAL PRODUCT DECLARATION (EPD) Industry-wide (generic) ISO 14025:2006, Type III

In 2013, Uniboard collaborated to a life-cycle analysis to implement a generic Environmental Product Declaration for all production of Particleboard. This approach was carried out by the owner of the American Wood Council (AWC) and Canadian Wood Council (CWC) and audited by the UL Environment's Program Operator.

<b>Product Category Rules (PCR)</b>	FPIinnovations: 2011. Product Category Rules (PCR) for preparing an Environmental Product Declaration for North American Structural and Architectural Wood Products, Version 1 (UN CPC 31, NAICS 321), November 8, 2011.
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Functional unit	Scope of LCA	Expected life time	Valid until
1m <sup>3</sup> of particleboard	Cradle-to-Gate	-	Nov. 2013 to Nov. 2018

Table 2: Cradle-to-Gate Impact Assessment Results - 1m<sup>3</sup> North American Particleboard

Impacts Category	Unit	Per m <sup>3</sup> of Particleboard Includes forestry operations
Global warming potential	kg CO <sub>2</sub> eq	315.30
Ozone depletion potential	kg CFC-11 eq	0.0000
Acidification potential	H+ moles eq	188.78
Smog creation potential	kg O <sub>3</sub> eq	35.54
Eutrophisation potential	kg N eq	0.1496
Total primary energy consumption	Unit	Per m <sup>3</sup> of Particleboard Includes forestry operations
Non-renewable fossil	MJ	5987.91
Non-renewable nuclear	MJ	555.59

The EPD includes Life Cycle Assessment (LCA) results for all processes up to the point that particleboard is packaged and ready for shipment at the manufacturing gate. The life cycle of particleboard includes the production of wood residues that are a coproduct of lumber milling. The cradle-to-gate product system thus includes forest management, logging, transportation of logs to lumber mills, sawing, transportation of wood residues to particleboard plants, and particleboard production.

Source: EPD Report

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## INGREDIENTS AND EMISSIONS

### DECLARATION OF CHEMICAL INGREDIENTS



**Type of declaration:** Health Product Declaration® (HPD®) version 1.0

**Period of validity:** March 2016 to March 2019

The content of Uniboard NU Green 2® particleboard was assessed for health hazard warnings as required using Pharos<sup>1</sup>

**Health Product Declaration® URL:** <https://builder.hpd-collaborative.org/uploads/files/hpds/1469/4119-20160610135502.pdf>

The Health Product Declaration® and logo is owned by the Health Product Declaration® Collaborative and is used with permission.

**Declaration:**  Self-declared  Third Party

**Ingredients inventory threshold:** 1,000 ppm

**Full disclosure of intentional ingredients:** Yes

**Full disclosure of known hazards:** Yes

#### Hazards associated with the product ingredients

##### Contents in Descending Order of Quantity

Wood dust - unspecified, MELAMINE-UREA-FORMALDEHYDE (MUF), WATER, UREA, Slack Wax (petroleum), AMMONIUM SULFATE, MELAMINE, FORMALDEHYDE, PARAFFIN OIL

The HPD Standard is solely a declaration of product content and direct health hazards associated with exposure to its individual contents. It is not an assessment of risks associated with actual use of the product. It does not address the potential health impacts of substances used or created during manufacture that do not appear in the final product as residuals, nor substances created during combustion or other other degradation processes.

**Highest concern GreenScreen® scores:** List Translator Benchmark 1<sup>2</sup>

PBT (persistent, bioaccumulative Toxic)

Cancer

Gene Mutation

Development

Reproductive

Endocrine

Respiratory

Neurotoxicity

Mammal

Skin or Eye

Aquatic toxicity

Land toxicity

Physical hazard

Global warming

Ozone depletion

Multiple

Unknown

<sup>1</sup>Pharos Project : Database that provides human and environmental health information of chemicals, materials and building products (<https://www.pharosproject.net>).

<sup>2</sup>GreenScreen scores (GS) Benchmarks of chemical ingredients: Benchmark 1 (Avoid, chemical of high concern), Benchmark 2 (Use but search for safer substitutes),

Benchmark 3 (Use but still opportunity for improvement), Benchmark 4 (Prefer, safer chemical).

### TABLE OF INGREDIENTS

Name	Role	CAS	Weight Ratio	GreenScreen	Note(s) (for more details refer to the HPD®)
Particles wood	Main component	-	84% - 88%	-	-
Melamine urea-formaldehyde	Resin	25036-13-9	7% - 8%	LT-U <sup>1</sup>	-
Water	Humidity	101-68-8	6% - 6%	Benchmark 4	-
Urea	Scavenger	57-13-6	0% - 1%	LT-U	-
Slack Wax	Wax	64742-61-6	0% - 0.5%	LT-1	-
Ammonium sulfate	Catalyst	7783-20-2	0% - 0.2%	LT-U	-
Melamine	Monomer	108-78-1	Residual	LT-P1	-
Formaldehyde	Monomer	50-00-0	Residual	LT-1	-
Paraffin oil	Monomer	8012-95-1	Residual	LT-P1	-

<sup>1</sup>GS List Translator (LT) scores of chemical ingredients: LT-1, likely GS Benchmark 1; LT-P1, possible GS Benchmark 1; U-LT or LT-UNK, present on a GS Specified Lists but there is insufficient information to classify the hazard as LT-1 or LT-P1 (does not mean the chemical is safe).

Validated Eco-Declaration—Declaration of Chemical ingredients

Methodology: validation of the documentation confirming the methodology and reporting of chemical ingredients.

Vertima's procedure: VERT-032009-01, First Edition.

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### TECHNICAL PERFORMANCES

#### PERFORMANCE TESTS

Non-exhaustive list. See NU Green 2® product specifications sheet.

- Particleboard Standard ANSI A208.1-2009 (Grade M-2);
- Flame Spread Index: Class 3 or C ULC 723-10 (ASTM E84);
- Formaldehyde emissions test: Phase 2 of CARB ATCM 93120 and exceeds ULEF.

#### EXPECTED LIFE

##### Warranty

–

Lifetime warranty when NU Green 2® are used for the purpose for which they have been designed, that is to say for indoor use.

### MANUFACTURER'S ENVIRONMENTAL MANAGEMENT

#### COMPANY'S COMMITMENT

As one of the North America's leading producers of engineered wood, Uniboard is convinced that operating a profitable business and maintaining a responsible approach to resources are by no means contradictory aims, but that they are actually mutually beneficial. For Uniboard, environmental protection goes beyond a voluntary commitment and is one of the keystones supporting its corporate strategy.

Uniboard environmental strategy is therefore based on three pillars, which also represent specific areas for action:

**Organization:** Continuous improvement and transparency of processes through management systems.

**Production:** Continuous improvement of production processes in order to further reduce our consumption of energy and raw materials while maintaining the high quality of our products.

**Products:** Concentration of research and development work on fiber residues, lighter density engineered wood and new resin systems are just a few of the initiatives we are constantly engaged in.

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## PRODUCT CONTRIBUTION SUMMARY

### LEED® v4 requirements for Building Design + Construction (BD+C)

New Construction, Core and Shell, School, Retail, Data Centers, Warehouse and Distribution Centers, Hospitality and Healthcare.

### LEED® v4 requirements for Interior Design + Construction (ID+C)

Commercial Interiors, Retail and Hospitality.

MATERIALS AND RESOURCES		POINTS	PRODUCT CONTRIBUTIONS
MR	<b>Building Product Disclosure and Optimization – Environmental Product Declarations</b> Option 1: NU Green 2® contributes to this credit due to the availability of a industry-wide (generic) EPD (type III) and is valued as 1/2 whole product out of the 20 needed for purposes of credit achievement calculation.	1 point	<b>ENVIRONMENTAL IMPACTS</b> Industry-wide (generic) EPD, Type III
MR	<b>Building Product Disclosure and Optimization – Sourcing of Raw Materials</b> Option 2: Leadership extraction practices May also contribute to the location valuation factor if the product is sourced (extracted, manufactured, purchased) within 160 km of the project site.	1 point	<b>ATTRIBUTES</b> Recycled Content pre-consumer (84% - 88%) and FSC®-Certified (100%) (When specified)
MR	<b>Building Product Disclosure and Optimization – Material Ingredients</b> Option 1: Material ingredients reporting	1 point	<b>INGREDIENTS AND EMISSIONS</b> HPD® version 1.0 Health Product Declaration®

INDOOR ENVIRONMENTAL QUALITY		POINTS	PRODUCT CONTRIBUTIONS
EQ	<b>Low-Emitting Materials</b> Option 1: Product category calculation <sup>1</sup> Number of points is dependant on the LEED rating system and the number of compliant categories. For the Composite Wood category 100% of composite wood not covered by other categories must meet the requirements.	1-3 points <sup>1</sup>	<b>INGREDIENTS AND EMISSIONS</b> ULEF Certified and CARB Phase 2

### LEED® v4 requirements for homes

Applies to single family homes, low-rise multi-family (one to three stories), or mid-rise multi-family (four to six stories); includes Homes and Multifamily Lowrise and Multifamily Midrise.

MATERIALS AND RESOURCES		POINTS	PRODUCT CONTRIBUTIONS
MR Prereq1	<b>Certified Tropical Wood</b>	Prerequisite	<b>ATTRIBUTES</b> Uniboard's product do not contain tropical species
MR Credit 2	<b>Environmentally Preferable Products</b> Option 2: Environmentally Preferable Products <sup>2</sup> At least 90% of all materials in each category must meet credit requirements. NU Green 2® contributes to 0.5 point for FSC®-Certified and to 0.5 point for Recycled Content.	1 point <sup>2</sup>	<b>ATTRIBUTES</b> Recycled Content pre-consumer (84% - 88%) and FSC®-Certified (100%) (When specified)
INDOOR ENVIRONMENTAL QUALITY		POINTS	PRODUCT CONTRIBUTIONS
EQ Credit 7	<b>Low-Emitting Products</b> <sup>3</sup> At least 90% of all materials in each category must meet credit requirements. NU Green 2® contributes to 1 point for CARB Phase 2 Compliant and ULEF Certified.	1 point <sup>3</sup>	<b>INGREDIENTS AND EMISSIONS</b> ULEF Certified and CARB Phase 2

It is important to consider that the total amount of possible points reflects the number of achievable points in each credit category. The product itself cannot achieve this score, as defined above, but is considered as a beneficial element in order to achieve LEED® credits.

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