






## NU GREEN 2® PARTICLEBOARD

NU Green 2® Particleboard is a ULEF (Ultra-Low Emission Formaldehyde) raw particleboard. This new product is FSC® certified (Forest Steward Council®) for its chain of custody by NEPCo and ECC™ certified (Eco-Certifies Composite) by the Composite Panel Association (CPA). It is made using 100% pre-consumer recycled or recovered wood fiber. Uniboard's NU Green 2® Particleboard is available in a collection of melamine colours.

## VALIDATED ECO-DECLARATION

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| PRODUCT SPECIFICATIONS  | ENVIRONMENTAL IMPACTS   | TECHNICAL PERFORMANCES  |
|---|---|---|
| <b>References</b><br>NU Green 2® Particleboard laminated or not laminated   | <b>Life Cycle Assessment</b> -  | <b>Performance tests</b><br>ANSI A208.1-2016/ ASTM E84  |
| <b>Final manufacturing location</b><br>Sayabec, Quebec G0J 3K0<br>CANADA  | <b>Reference service life</b> -   | <b>MANUFACTURER'S ENVIRONMENTAL MANAGEMENT</b>  |
| <b>Components</b><br>Wood particles, MUF resin, water, scavenger, catalyst and melamine-cellulose   | <b>Product's carbon footprint</b> -   | <b>Certification ISO 14001</b> -  |
| <b>ATTRIBUTES</b>   | <b>Environmental Product Declaration</b><br>Industry-wide (generic) (Déc. 2018 to Nov. 2023)<br>ISO 14025:2006, Type III<br>The EPD excludes the laminated product. | <b>Extended Producer Responsibility</b><br>(Take Back Program) -  |
| <b>Recycled Content</b><br>Pre-consumer: 82.9% - 85.6%<br>Post-consumer: 0%   | <b>INGREDIENTS AND EMISSIONS</b>  | <b>Corporate Sustainability Report</b><br>(CSR : GRI, ISO 26000, BNQ 21000 or others) -   |
| <b>Sourcing of raw materials</b><br>The origin and extraction location of raw materials have been documented for 82.9%-85.6% of the final product weight ratio. | <b>Declaration of chemical ingredients</b> 1,000 ppm  | <b>CERTIFICATIONS AND CONFORMITIES</b>  |
| <b>Certified Wood</b><br>NC-COC-002726  | <b>Type of declaration</b> HPD® version 2.1.1<br>Health Product Declaration®  |    |
| <b>Rapidly renewable materials</b> -  | <b>Emission test</b> -  | <p>The mark of responsible forestry</p>   |
| <b>Biobased materials</b> -   | <b>COV</b> -  |   |
|   | <b>Formaldehyde</b> ≤ 0.04 ppm  |   |
|   | <b>Others</b> TSCA Title VI compliant<br>Ultra-Low Emission Formaldehyde (ULEF) Certified   |   |

Uniboard Canada Inc. is a leading North American manufacturer of engineered wood products, with installed capacity of over 660 million square feet of raw particleboard, high-density and medium-density fiberboard, of which over 50% is converted into value-added TFL.

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[www.uniboard.com](http://www.uniboard.com)

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# ENVIRONMENTAL DATA SHEET

## NU GREEN 2® PARTICLEBOARD



NU Green 2® Particleboard, a 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 0.04ppm. It is available in the widest selection of sizes and thicknesses.

### ATTRIBUTES

#### RECYCLED CONTENT

| Components                | Weight ratio  | Pre-consumer  | Post-consumer |
|---------------------------|---------------|---------------|---------------|
| Wood particles            | 82.9% - 85.6% | 100%          | 0%            |
| Final product             | Weight ratio  | Pre-consumer  | Post-consumer |
| NU Green 2® Particleboard | 100%          | 82.9% - 85.6% | 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 the manufacturing the final product.

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

#### SOURCING OF RAW MATERIALS

| Weight ratio | Final manufacturing location     |
|--------------|----------------------------------|
| 100%         | Sayabec, (Quebec) G0J 3K0 CANADA |

Validated Eco-Declaration – Sourcing of raw materials

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

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

| Component          | Weight ratio  | Location of suppliers | Extraction location                        | Transport from suppliers |
|--------------------|---------------|-----------------------|--|--------------------------|
| Wood particules    | 82.9% - 85.6% | N/A                   | QC, ON and North-East of the United-States | Road                     |
| MUF resin          | 7.3% - 7.6%   | N/A                   | N/A  | N/A                      |
| Water              | 5.5% - 5.7%   | N/A                   | N/A  | N/A                      |
| Melamine-Cellulose | 0.0% - 3.2%   | N/A                   | N/A  | N/A                      |
| Others             | 1.1% - 1.2%   | N/A                   | N/A  | N/A                      |

The origin and extraction location of raw materials have been documented for 82.9%-85.6% of the final product weight ratio.

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# ENVIRONMENTAL DATA SHEET

NU GREEN 2® PARTICLEBOARD



## ATTRIBUTES (CONTINUED)

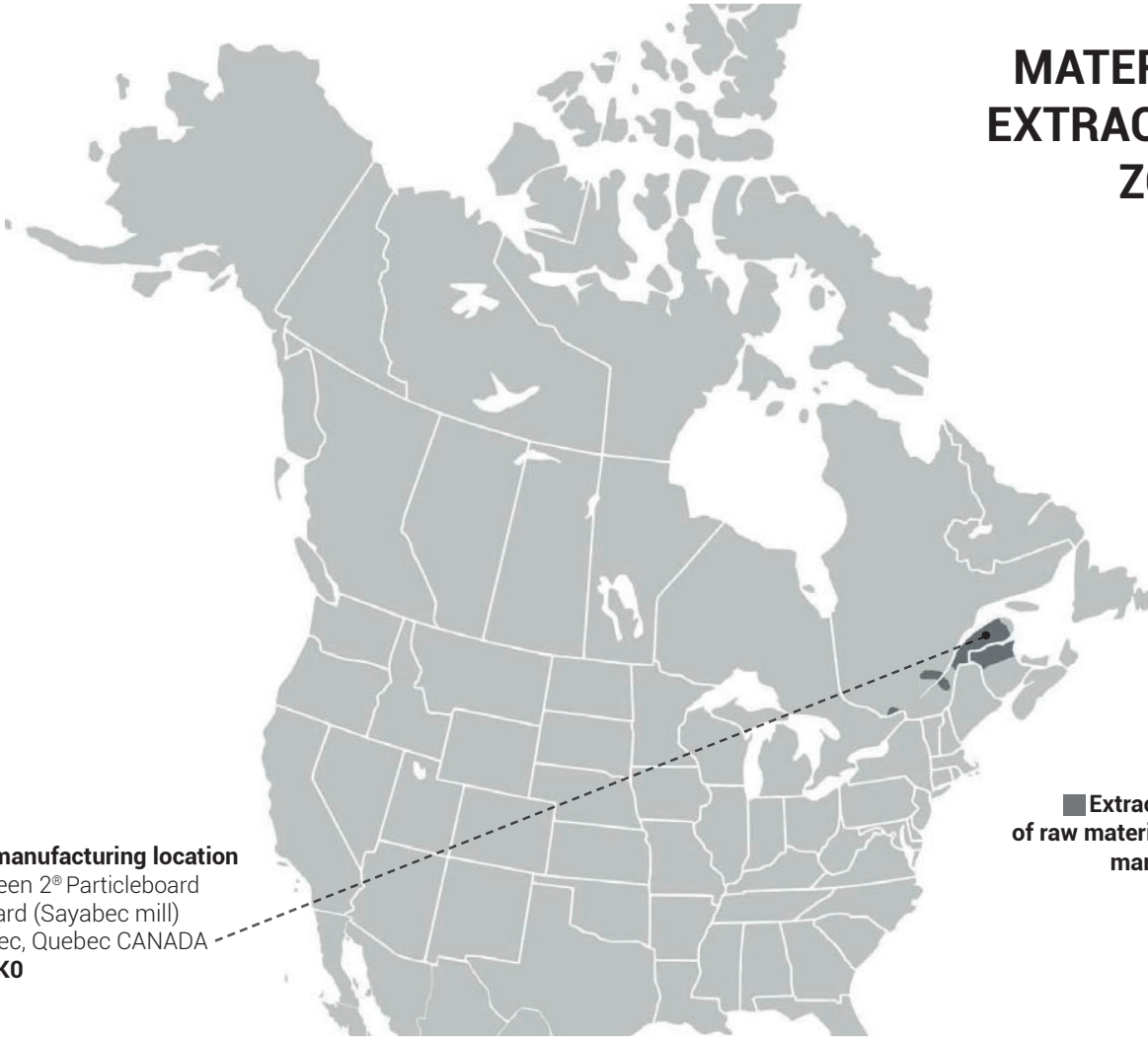
### SOURCING OF RAW MATERIALS (CONTINUED)

## RAW MATERIALS EXTRACTION ZONES

■ Extraction zones of raw materials used in manufacturing

#### Final manufacturing location

NU Green 2® Particleboard  
Uniboard (Sayabec mill)  
Sayabec, Quebec CANADA  
**G0J 3K0**



800 km

**HARVEST LOCATION OF WOOD PARTICLES :** (Details available upon request)  
Canada (Quebec, New-Brunswick and Ontario) and North-East of the United-States.

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## NU GREEN 2® PARTICLEBOARD



### ATTRIBUTES (CONTINUED)

#### FSC® CERTIFICATION

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



The mark of responsible forestry

| NU Green 2® Particleboard        | % 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                   | 82.9% - 85.6%    | 82.9% - 85.6%           | 100%   |                         |
| Uniboard mills                   |                  | Certification number    | Certification agency   | Period of validity      |
| Sayabec, (Quebec) G0J 3K0 CANADA |                  | NC-COC-002726           | FSC controlled wood, FSC Mix   | 11/6/2017 to 11/05/2022 |

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, Second Edition.

### ENVIRONMENTAL IMPACTS

#### ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Industry-wide (generic), ISO 14025:2006, Type III

In 2018, Uniboard collaborated to the update of the generic Environmental Product Declaration for Particleboard production by providing its Particleboard production data of the Val-d'Or et Sayabec plants. The project was lead by the Composite Panel Association (CPA) and audited by UL Environnement, the program operator. **The EPD excludes the laminated product.**

|                      |   |
|----------------------|---|
| <b>Reference PCR</b> | FPIInnovations: 2015. Product Category Rules (PCR) for preparing an Environmental Product Declaration for North American Structural and Architectural Wood Products. Version 2 (UN CPC 31, NAICS 321), June 18, 2015. |
|----------------------|---|

| Functional Unit      | Scope of the LCA | Reference service life | Period of validity |
|----------------------|------------------|------------------------|--------------------|
| 1m³ of particleboard | Cradle-to-gate   | N/A                    | 12/2018 to 11/2023 |

**Table 2: Cradle-to-Gate- Impact Assessment Result - 1m³ North American Particleboard**

| Impact categories                | Unit                   | Per m³ of Particleboard includes forestry operations |
|----------------------------------|------------------------|--|
| Global warming potential         | kg CO <sub>2</sub> eq. | 402.61   |
| Ozone depletion potential        | kg CFC-11 eq.          | 3.41E-05   |
| Acidification potential          | kg SO <sub>2</sub> eq. | 3.88   |
| Smog creation potential          | kg O <sub>3</sub> eq.  | 46.37  |
| Eutrophisation potential         | kg N eq.               | 1.23   |
| Total consumption primary energy | Unit                   | Per m³ of Particleboard includes forestry operations |
| Non-renewable fossil             | MJ                     | 5 938.15   |
| Non-renewable nuclear            | MJ                     | 633.91   |

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.

Validated Eco-Declaration – Environmental Product Declaration (EPD)

Methodology: validation of documents and methodology surrounding the product LCA report and EPD.

Vertima's procedure: VERT-032010-03, Second Edition.

Source: EPD report

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### INGREDIENTS AND EMISSIONS

#### DECLARATION OF CHEMICAL INGREDIENTS



**Type of declaration:** Health Product Declaration® (HPD®) version 2.1.1

**Period of validity:** July 15, 2019 to July 15 2022

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

**HPDC repository URL:** <http://www.hpd-collaborative.org/hpd-public-repository/>

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

**Declaration:** ■ Prepared by Vertima inc., third party approved by HPDC

**Ingredients inventory threshold:** 100 ppm

**Full disclosure of intentional ingredients:** Yes

**Full disclosure of known hazards:** Yes

#### Hazard(s) associated with the product ingredients:

Contents in Descending Order of Quantity

Wood dust - unspecified, Formaldehyde compounds, Urea formaldehyde based, Water, Urea, Slack Wax (petroleum), Ammonium sulfate, Formaldehyde, Paraffin oil.

This HPD Standard describes a declaration of product content and direct health hazards associated with exposure to its individual contents. The Declaration 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 degradation processes.

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

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> PBT (Persistent, Bioaccumulative, Toxic) | <input checked="" type="checkbox"/> Respiratory | <input checked="" type="checkbox"/> Physical hazard |
| <input checked="" type="checkbox"/> Cancer                        | <input type="checkbox"/> Neurotoxicity          | <input type="checkbox"/> Global warming             |
| <input checked="" type="checkbox"/> Gene mutation                 | <input checked="" type="checkbox"/> Mammal      | <input type="checkbox"/> Ozone depletion            |
| <input checked="" type="checkbox"/> Development                   | <input type="checkbox"/> Land toxicity          | <input checked="" type="checkbox"/> Multiple        |
| <input checked="" type="checkbox"/> Reproductive                  | <input type="checkbox"/> Aquatic toxicity       | <input type="checkbox"/> Unknown                    |
| <input checked="" type="checkbox"/> Endocrine                     | <input checked="" type="checkbox"/> Skin or eye |   |

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

<sup>2</sup>GreenScreen (GS) Benchmark scores 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

| Composant        | Rôle           | Rapport massique | CAS <sup>1</sup> | GreenScreen® <sup>2</sup> | Autre pointage applicable<br>(pour plus de détails se référer à la HPD®) |
|------------------|----------------|------------------|------------------|---------------------------|--|
| Particles Wood   | Main component | 82.9% - 85.6%    | 9004-34-6        | -                         |  |
| UF Resin         | Resin          | 7.3% - 7.6%      | Undisclosed      | LT-1                      | LT-UNK, BM-4, LT-P1  |
| Water            | Humidity       | 5.5% - 5.7%      | 7732-15-5        | BM-4                      |  |
| Urea             | Scavenger      | 0.7% - 0.8%      | 57-13-6          | LT-UNK                    | NoGS   |
| Wax              | Repellant      | 0.3%             | 64742-61-6       | LT-1                      |  |
| Ammonium Sulfate | Catalyst       | 0.1%             | 7783-20-2        | LT-P1                     |  |
| Melamine         | Finishing      | 0.0% - 3.2%      | Undisclosed      | BM-1                      | LT-1, LT-P1. LT-UNK  |

<sup>1</sup>Only the CAS numbers with the score of highest concern are listed. The complete list of substances can be found in the HPD®.

<sup>2</sup>GS List Translator (LT) scores of chemical ingredients: LT-1, likely GS Benchmark 1; LT-P1, possible GS Benchmark 1; LT-U or LT-UNK, present on GS Specified Lists but there is insufficient information to classify the hazards 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, Second Edition.

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### TECHNICAL PERFORMANCES

#### PERFORMANCE TESTS

Non-exhaustive list. See particleboard product specifications sheet at [www.uniboard.com](http://www.uniboard.com) for more information.

- Particleboard Standard ANSI A208.1-2016;
- Flame Spread Index: Class 3 or C ULC 723-10 (ASTM E84);
- Formaldehyde emissions test: Phase 2 of CARB ATCM 93120 and TSCA Title VI compliant.

#### WARRANTY

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

### MANUFACTURER'S ENVIRONMENTAL MANAGEMENT PROGRAM

#### MANUFACTURER'S COMMITMENT

Respect for the environment underlines Uniboard®'s entire manufacturing process. Our environmental policy is based on the sustainable use of natural resources and was implemented with the health and well-being of our employees, customers and the community in mind.

Our environmental audit program helps us stay abreast of changing rules and regulations while identifying potential risks in our operations. Long before environmental concerns became mainstream, Uniboard was in the forefront by recycling post-industrial wood waste otherwise destined to be burnt or sent to land fill.

Today, we continue to ensure the proper use of wood fiber waste into value-added and environmental friendly products. Uniboard recuperates and reuses post-industrial and urban wood waste to reduce wood fiber consumption and land filling.



# ENVIRONMENTAL DATA SHEET

## NU GREEN 2® PARTICLEBOARD



### 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      |  | PRODUCT CONTRIBUTIONS   |  |
|------------------------------|--|-------------------------|--|
| MR                           | <b>Building Product Disclosure and Optimization – Environmental Product Declaration (EPD)</b><br>Option 1: Environmental Product Declaration (1 point)<br>NU Green 2® Particleboard 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. | Contribute              | <b>ENVIRONMENTAL IMPACTS</b><br>Industry-wide (generic) EPD, Type III<br>The EPD excludes the laminated product. |
|                              |  |                         | <b>ATTRIBUTES</b><br>Recycled Content pre-consumer (83.7% - 86.5%) and FSC®- Certified (100%) (When specified)   |
| MR                           | <b>Building Product Disclosure and Optimization – Sourcing or Raw Materials</b><br>Option2: Leadership extraction practices (1 point)<br>May also contribute to the location valuation factor if the product is sourced (extracted, manufactured, purchased) within 160 km of the project site.  | Contribute              | <b>INGREDIENTS AND EMISSIONS</b><br>HPD® version 2.1.1   |
| MR                           | <b>Building Product Disclosure and Optimization – Material Ingredients</b><br>Option 1: Material ingredients reporting (1 point)   | Contribute              |  |
| INDOOR ENVIRONMENTAL QUALITY |  | PRODUCT CONTRIBUTIONS   |  |
| EQ                           | <b>Low-Emitting Materials</b><br>Option 1: Product category calculation (1-3 points)<br><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.  | Contribute <sup>1</sup> | <b>INGREDIENTS AND EMISSIONS</b><br>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.

| INDOOR ENVIRONMENTAL QUALITY |   | PRODUCT CONTRIBUTIONS          |  |
|------------------------------|---|--------------------------------|--|
| MR Prereq 1                  | <b>Certified Tropical Wood</b>  | Prerequisite                   | <b>ATTRIBUTES</b><br>Uniboard's product do not contain tropical species  |
| MR Credit 2                  | <b>Environmentally Preferable Products</b><br>Option 2: Environmentally Preferable Products<br><sup>2</sup> At least 90% of all materials in each category must meet credit requirements. NU Green 2® Particleboard contributes to 0.5 point for FSC® -Certified and to 0.5 point for Recycled Content. | Contribute <sup>2</sup>        | <b>ATTRIBUTES</b><br>Recycled Content pre-consumer (82.9% - 85.6%) and FSC®- Certified (100%) (When specified) |
| INDOOR ENVIRONMENTAL QUALITY |   | PRODUCT CONTRIBUTIONS          |  |
| EQ Credit 7                  | <b>Low-Emitting Products</b><br><sup>3</sup> At least 90% of all materials in each category must meet credit requirements. NU Green 2® Particleboard contributes to 1point for CARB Phase 2 Compliant and ULEF Certified.   | Do not contribute <sup>3</sup> | <b>INGREDIENTS AND EMISSIONS</b><br>ULEF Certified and CARB Phase 2  |

It is important to note that the points identified above are linked with each of the credits where the product contributes as part of a LEED® v4 certification process. The product itself is only one element among others to reach the target score.

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