






NU GREEN MR50® MDF

NU Green MR50® MDF No Added Formaldehyde (NAF) medium density fiberboards is the most ecofriendly moisture resistant solution. This green, high-quality, versatile MDF is FSC® (Forest Stewardship Council®) certified for its chain of custody by NEPCo and an Eco-Certified Composite™ (ECC) by the composite Panel Association (CPA). It contains 100% of recycled and recovered wood fiber (pre-consumer). NU Green MR50® MDF is available in a wide array of melamine colours.

VALIDATED ECO-DECLARATION

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| PRODUCT SPECIFICATIONS | ENVIRONMENTAL IMPACTS | TECHNICAL PERFORMANCES |
|---|---|--|
| References NU Green MR50® Medium Density Fiberboard (MDF) laminated or not laminated Mont-Laurier, Quebec J9L 3W3 Sayabec, Quebec G0J 3K0 Val-d'Or, Quebec J9P 5G6 CANADA | Life Cycle Assessment - Reference service life - Product's carbon footprint - Environmental Product Declaration Industry-wide (generic) (Déc. 2018 to Nov. 2023) ISO 14025:2006, Type III The EPD excludes the laminated product. | Performance tests ANSI A208.2-2016 / ASTM E84 |
| Components Wood fibers, diisocyanate resin, water, wax and melamine-cellulose | INGREDIENTS AND EMISSIONS | MANUFACTURER'S ENVIRONMENTAL MANAGEMENT |
| ATTRIBUTES | Declaration of chemical ingredients 1,000 ppm | Certification ISO 14001 - |
| Recycled Content Pre-consumer: 89.0% - 91.5% Post-consumer: 0% | Type of declaration HPD® version 2.1.1 Health Product Declaration® | Extended Producer Responsibility (Take Back Program) - |
| Sourcing of raw materials The origin and extraction location of raw materials have been documented for 89.0% - 91.5% of the final product weight ratio. | Emission test - | Corporate Sustainability Report (CSR : GRI, ISO 26000, BNQ 21000 or others) - |
| Certified Wood NC-COC-002726 | COV - | CERTIFICATIONS AND CONFORMITIES |
| Rapidly renewable materials - | Formaldehyde ≤ 0.04 ppm |  The mark of responsible forestry |
| Biobased materials - | Others TSCA Title VI compliant No-added Formaldehyde (NAF) 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

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ENVIRONMENTAL DATA SHEET

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The NU Green MR50® NAF MDF is ideal for all interior, non-structural applications where periodic humidity exposure is a factor. As a MR50 qualified product, it passes the 24-hour submersion test (MR10) and 6 cycle accelerated aging test (MR30).

Uniboard NU Green MR50® MDF is certified No-Added Formaldehyde (NAF) by the California Air Resource Board (CARB). No formaldehyde resin is used during the manufacturing process. Its ultra low emissions formaldehyde (ULEF) are no greater than those released by wood. The NU Green MR50® NAF MDF exceeds CARB Phase 2 standards.

NU Green MR50® MDF is available in a wide selection of dimension and thicknesses, as well as with a section of melamine color.

ATTRIBUTES

RECYCLED CONTENT

| Components | Weight ratio | Pre-consumer | Post-consumer |
|--------------------|---------------|---------------|---------------|
| Wood fibers | 89.0% - 91.5% | 100% | 0% |
| Final product | Weight ratio | Pre-consumer | Post-consumer |
| NU Green MR50® MDF | 100% | 89.0% - 91.5% | 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% | Mont-Laurier, Quebec J9L 3W3 CANADA Sayabec, Quebec G0J 3K0 CANADA Val-d'Or, Quebec J9P 5G6 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 fibers | 89.0% - 91.5% | N/A | QC, ON and North-East of the United-States | Road |
| Water | 4.7% - 4.8% | N/A | N/A | N/A |
| Diisocyanate resin | 3.1% - 3.2% | N/A | N/A | N/A |
| Melamine-Cellulose | 0.0% - 2.8% | N/A | N/A | N/A |
| Wax | 0.5% | N/A | N/A | N/A |

The origin and extraction location of raw materials have been documented for 89.0% - 91.5% of the final product weight ratio.

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ATTRIBUTES (CONTINUED)

SOURCING OF RAW MATERIALS (CONTINUED)

RAW MATERIALS EXTRACTION ZONES

Final manufacturing location
NU Green MR50® MDF
Uniboard (Sayabec mill)
Sayabec, Quebec CANADA
G0J 3K0

Final manufacturing location
NU Green MR50® MDF
Uniboard (Val-d'Or mill)
Val-d'Or, Quebec CANADA
J9P 5G6

Final manufacturing location
NU Green MR50® MDF
Uniboard (Mont-Laurier mill)
Mont-Laurier, Quebec CANADA
J9L 3W3

■ Extraction zones of raw materials used in manufacturing

800 km

HARVEST LOCATIONS OF WOOD FIBERS: (Details available upon request)
Canada (Quebec, New Brunswick and Ontario) and North East of the United States

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ENVIRONMENTAL DATA SHEET

NU GREEN MR50® MDF



ATTRIBUTES (CONTINUED)

FSC® CERTIFICATION

FSC® Certified NU Green MR50® MDF (When specified)



| NU Green MR50® MDF | % 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 fibers | 89.0% - 91.5% | 89.0% - 91.5% | 100% | |
| Uniboard mills | | Certification number | Certification agency | Period of validity |
| Mont-Laurier, Quebec J9L 3W3 CANADA Sayabec, Quebec G0J 3K0 CANADA Val-d'Or, Quebec J9P 5G5 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 MDF production by providing its MDF production data of the Mont-Laurier plant. The project was lead by the Composite Panel Association (CPA) and audited by UL Environnement, the program operator. **The EPD excludes the laminated product.**

| Reference PCR | FPInnovations: 2011. 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 MDF | Cradle-to-gate | N/A | 12/2018 to 11/2023 |

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

| Impact categories | Unit | Per m³ of MDF includes forestry operations |
|----------------------------------|------------------------|--|
| Global warming potential | kg CO ₂ eq. | 759.15 |
| Ozone depletion potential | kg CFC-11 eq. | 5.81E-05 |
| Acidification potential | kg SO ₂ eq. | 5.52 |
| Smog creation potential | kg O ₃ eq. | 69.63 |
| Eutrophication potential | kg N eq. | 3.42 |
| Total consumption primary energy | Unit | Per m³ of MDF includes forestry operations |
| Non-renewable fossil | MJ | 10 578.48 |
| Non-renewable nuclear | MJ | 1 370.91 |

The EPD includes Life Cycle Assessment (LCA) results for all processes up to the point that MDF is packaged and ready for shipment at the manufacturing gate. The life cycle of MDF 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 MDF plants, and MDF 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



VERSION 2.1

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 MR50® MDF was assessed for health hazard warnings as required using Pharos¹.

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: 1,000 ppm

Full disclosure of intentional ingredients: Yes

Full disclosure of known hazards: Yes

Hazard(s) associated with the product ingredients:

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 1²

☐ PBT (Persistent, Bioaccumulative, Toxic)

☒ Cancer

☒ Gene mutation

☒ Development

☒ Reproductive

☒ Endocrine

☒ Respiratory

☐ Neurotoxicity

☒ Mammal

☐ Land toxicity

☐ Aquatic toxicity

☒ Skin or eye

☒ Physical hazard

☐ Global warming

☐ Ozone depletion

☒ Multiple

☐ Unknown

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

²GreenScreen (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

| Component | Role | Weight ratio | CAS ¹ | GreenScreen ^{®2} | Other applicable score (for more details refer to the HPD [®]) |
|------------------------------|----------------|---------------|------------------|---------------------------|---|
| Wood fibers | Main component | 89.0% - 91.5% | 9004-34-6 | - | |
| Water | Humidity | 4.7% - 4.8% | 7732-15-5 | LT-1 BM-4 | |
| Methylene Diisocyanate Resin | Resin | 3.1% - 3.2% | Multiple | LT-UNK | |
| Wax | Repellant | 0.5% | 64742-61-6 | LT-1 | |
| Melamine-cellulose | Finishing | 0.0% - 2.8% | Undisclosed | BM-1 | LT-1, LT-P1. LT-UNK |

¹Only the CAS numbers with the score of highest concern are listed. The complete list of substances can be found in the HPD[®].

²GS 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 for more information.

| |
|---|
| <ul style="list-style-type: none">Medium Density Fiberboard (MDF), Standard ANSI A208.2-2016; |
| <ul style="list-style-type: none">Flame Spread Index: Class 2 or B ULC 723-10 (ASTM E84); |
| <ul style="list-style-type: none">Cycle accelerated aging test from ASTM D1037, complies with ANSI A208.2 MR30; |
| <ul style="list-style-type: none">24-hour water submersion test from ASTM D1037, complies with ANSI A208.2 MR50 requirements; |
| <ul style="list-style-type: none">Formaldehyde emissions test: Phase 2 of CARB ATCM 93120 and TSCA Title VI compliant. |

WARRANTY

Lifetime warranty when NU Green MR50® MDF 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.

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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

PRODUCT CONTRIBUTIONS

MR Building Product Disclosure and Optimization – Environmental Product Declaration (EPD)

Option 1: Environmental Product Declaration (1 point)
NU Green MR50® MDF 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

ENVIRONMENTAL IMPACTS

Industry-wide (generic) EPD, Type III
The EPD excludes the laminated product.

MR Building Product Disclosure and Optimization – Sourcing or Raw Materials

Option2: Leadership extraction practices (1 point)
May also contribute to the location valuation factor if the product is sourced (extracted, manufactured, purchased) within 160 km of the project site.

Contribute

ATTRIBUTES

Recycled Content
pre-consumer (89.0% - 91.5%)
and FSC®- Certified (100%) (When specified)

MR Building Product Disclosure and Optimization – Material Ingredients

Option 1: Material ingredients reporting (1 point)

Contribute

INGREDIENTS AND EMISSIONS

HPD® version 2.1.1
Health Product Declaration®

INDOOR ENVIRONMENTAL QUALITY

PRODUCT CONTRIBUTIONS

EQ Low-Emitting Materials

Option 1: Product category calculation (1-3 points)
¹Number 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.

Contribute¹

INGREDIENTS AND EMISSIONS

NAF 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

PRODUCT CONTRIBUTIONS

MR Prereq 1 Certified Tropical Wood

Prerequisite

ATTRIBUTES

Uniboard's product do not contain tropical species

MR Credit 2 Environmentally Preferable Products

Option 2: Environmentally Preferable Products
²At least 90% of all materials in each category must meet credit requirements. NU Green MR50® MDF contributes to 0.5 point for FSC® - Certified and to 0.5 point for Recycled Content.

Contribute²

ATTRIBUTES

Recycled Content
pre-consumer (89.0% - 91.5%)
and FSC®- Certified (100%) (When specified)

INDOOR ENVIRONMENTAL QUALITY

PRODUCT CONTRIBUTIONS

EQ Credit 7 Low-Emitting Products

³At least 90% of all materials in each category must meet credit requirements. NU Green MR50® MDF contributes to 1 point for CARB Phase 2 Compliant and ULEF Certified.

Contribute³

INGREDIENTS AND EMISSIONS

NAF 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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