

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER N-22-564

Relating to CARB Approval to Use No-added Formaldehyde Resins by  
Composite Wood Product Manufacturers under  
section 93120.3, title 17, California Code of Regulations

**Dare Wood-based Panel Group Co., Ltd.**

Whereas, the California Air Resources Board (CARB) has adopted the "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" (ATCM; title 17, California Code of Regulations, sections 93120-93120.12), which establishes formaldehyde emission standards for composite wood products;

Whereas, section 93120.1(a)(29) of the ATCM defines "no-added formaldehyde" (NAF) based resins to mean resins formulated with NAF as part of the resin cross-linking structure for making hardwood plywood (HWPW), particleboard (PB), medium density fiberboard (MDF), or thin medium density fiberboard (tMDF) including, but not limited to resins made from soy, polyvinyl acetate, or methylene diisocyanate;

Whereas, section 93120.3(c) of the ATCM allows manufacturers of HWPW, PB, MDF, and tMDF who use NAF-based resins to apply for written approval from the Executive Officer for an exemption from the requirements of section 93120.3(b) of the ATCM;

Whereas, section 93120.3(c) of the ATCM allows manufacturers of HWPW, PB, MDF, and tMDF who use NAF-based resins to submit an application to the Executive Officer for an exemption from the requirements of section 93120.3(b) of the ATCM; the application shall include: (A) a statement indicating which product types will be manufactured using NAF-based resins for sale in California; (B) the chemical formulation of the candidate NAF-based resins, including base resins, catalysts, and other additives used in manufacturing; (C) the name of their CARB-approved third-party certifier (TPC); and (D) data on emissions performance of the candidate NAF-based resins;

Whereas, the data on emissions performance of the candidate NAF-based resin required in section 93120.3(c) of the ATCM must be obtained by working with a CARB-approved TPC, and must include three months of routine quality control testing data, the correlation of the routine quality control testing data to primary or secondary testing data, and the results of one primary or secondary method test, as required in Appendix 2 of section 93120.12 of the ATCM;

Whereas, section 93120.3(c)(1) of the ATCM requires that 90 percent of the three months of routine quality control testing data and the results of one primary or secondary method test must be shown to be no higher than 0.04 parts per million (ppm), and that all data must be shown to be no higher than 0.05 ppm for HWPW and 0.06 ppm for PB, MDF, and tMDF;

Whereas, section 93120.3(c)(4) of the ATCM provides that the Executive Officer shall approve the application and issue an Executive Order if the evidence submitted by the applicant is sufficient to demonstrate that the applicant has met the requirements specified in section 93120.3(c)(1) of the ATCM;

Whereas, Dare Wood-based Panel Group Co., Ltd. (Dare Wood-based Panel Group or the applicant) submitted an application that we received on May 13, 2022;

Whereas, the application from Dare Wood-based Panel Group was deemed complete on May 18, 2022;

Whereas, the application from Dare Wood-based Panel Group specifies the range in product manufacturing parameters, applicable post-press product treatments, base resin trade name(s) and base resin manufacturer(s)/supplier(s), and other ingredients added to the base resin by the applicant to manufacture NAF MDF and tMDF products;

Whereas, CARB was provided base resin/adhesive information specifying the base resin polymer type and minimum and maximum values of all major and any minor ingredients in the base resin on a percent weight of solids basis;

Whereas, the base resin/adhesive supplier, commercial name, and resin type are set forth in Confidential Attachment A;

Whereas, section 93120.3(c)(4) of the ATCM provides that the Executive Officer shall approve the application and issue an Executive Order if the evidence submitted by the applicant is sufficient to demonstrate that the applicant has met the requirements specified in section 93120.3(c)(1) of the ATCM; and

Whereas, the Executive Officer finds that the evidence submitted by the applicant meets the criteria specified in section 93120.3(c)(4) of the ATCM.

Now, therefore, it is ordered that Dare Wood-based Panel Group is hereby approved as a NAF manufacturer of MDF and tMDF provided that the following terms and conditions are met for products sold, supplied, offered for sale, or manufactured for sale in California:

1. Dare Wood-based Panel Group must use the commercial resin listed and supplier listed in Section A of Confidential Attachment A for the manufacture of NAF MDF and tMDF products.
2. As specified in Section B of Confidential Attachment A, Dare Wood-based Panel Group is legally responsible for ensuring that the base resin specifications are within the ranges specified in the original application and any subsequent amendments of this Executive Order.
3. The application rate of the base resins used for the manufacture of NAF composite wood products by Dare Wood-based Panel Group must be within the ranges specified in Section C of Confidential Attachment A.
4. Other chemical components of the base resins (such as sizing wax and release wax) used for the manufacture of NAF composite wood products by Dare Wood-based Panel Group must be within the ranges specified in Section D of Confidential Attachment A.
5. The allowable operating parameters for press temperature and press time for the base resins used to manufacture the NAF composite wood products by Dare Wood-based Panel Group must be within the ranges specified in Section E of Confidential Attachment A.
6. Only the composite wood products with the product names listed in Section F of Confidential Attachment A are authorized under this Executive Order.

Be it further ordered that Dare Wood-based Panel Group may change the resin system supplier listed in Section A of Confidential Attachment A if the new resin supplier supplies the same resin type listed in Confidential Attachment A, confirmatory emission tests are conducted, and the Chief of the Risk Reduction Branch within the Transportation and Toxics Division is notified in advance of using the new resin system for production.

Be it further ordered that Dare Wood-based Panel Group must conduct confirmatory testing for any new resin supplier by demonstrating that the results of one primary or secondary method test for the new resin system supplier are no higher than 0.04 ppm for the NAF products authorized under this Executive Order.

Be it further ordered that the application for re-approval specified in section 93120.3(c)(4) of the ATCM, as applicable, requires the applicant to submit the results of at least one primary or secondary method test for the NAF products listed in Confidential Attachment A based on panels or a set of panels randomly selected and tested by a CARB-approved TPC, and the chemical formulation of the NAF-based resins. In addition, at least one primary or secondary method test must be provided for each facility, which operates in accordance with this Executive Order, and the applicant must also include a current list of their resin suppliers.

Be it further ordered that section 93120.3(c)(6) of the ATCM, as applicable, specifies that if the applicant decides to change to a formaldehyde-based resin system, the applicant must notify CARB in advance of changing resin systems and must comply with the requirements of section 93120.3(b) of the ATCM for that product type.

Be it further ordered that the Executive Officer may review and, for good cause, modify or revoke this Executive Order as provided in section 93120.3(c)(4) of the ATCM. The Executive Officer shall not modify or revoke this Executive Order without affording the applicant the opportunity for a hearing in accordance with the procedures specified in title 17, California Code of Regulations, section 60055.1 et seq.

Be it further ordered that this Executive Order shall have a duration of two years from the date this Executive Order is signed; the applicant may apply for re-approval as provided in section 93120.3(c)(4) of the ATCM.

Be it further ordered that the applicant must maintain records in electronic or hard copy form for two years, for review by CARB upon request, as specified in section 93120.3(g) of the ATCM.

Be it further ordered that the applicant must notify the Executive Officer in writing within 30 days of any change in their product manufacturing parameters or base resin manufacturer(s) or supplier(s) that constitute a modification outside the scope of their application for reduced testing under or an exemption from the requirements in section 93120.3(b) of the ATCM.

Executed at Sacramento, California on this 22<sup>nd</sup> day of September 2022.



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Robert Krieger, Chief  
Risk Reduction Branch  
Transportation and Toxics Division

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**Attachment A**  
**Formulation Data and Operating Parameters**  
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**Dare Wood-based Panel Group Co., Ltd.**

**Section A.**

**Resin Supplier:** **Wanhua Chemical Group Co., Ltd.**  
• Address: No. 3 Sanya Road, YEDA  
Yantai, P.R. China 264003

**Commercial Resin Name:** **Wannate CW20**  
• Resin Type: Polymethylene Diphenyl Diisocyanate (pMDI)

**Section B.**

**Base Resin Chemical Formulation (Percent by Weight):**

Dare Wood-based Panel Group Co., Ltd is legally responsible for ensuring the base resin specifications are within the ranges specified in the original application and any subsequent amendments to this Executive Order.

**Section C.**

**Base Resin Application Rate (kg/m<sup>3</sup>):**

- MDF and tMDF (min/max): 20 to 50

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**Attachment A**  
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**Dare Wood-based Panel Group Co., Ltd.**

**Section D.**

**Other Ingredients Added by the Composite Wood Product Manufacturer (Amount Added per Pound of Base Resin on a 100 Percent Solids Basis):**

- None

**Section E.**

**Allowable Operating Parameters:**

- Press Temperature (°C)
  - MDF and tMDF (min/max): 170 to 240
- Press Time (Minutes):
  - MDF and tMDF (min/max): 0.6 to 5.5

**Section F.**

**Product Names & Types Authorized in Executive Order N-22-564:**

- DARE NAF MDF and tMDF
  - thickness range = (0.157 to 0.787 inches)