

# Proposed Amendments to the Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products



*International Woodworking Machinery  
& Furniture Supply Fair  
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California Environmental Protection Agency



Air Resources Board

# Overview

- Background
- Proposed amendments under consideration
- Initial reactions to draft U.S. EPA regulation
- Next steps
- Questions



# BACKGROUND



# Airborne Toxic Control Measure (ATCM)

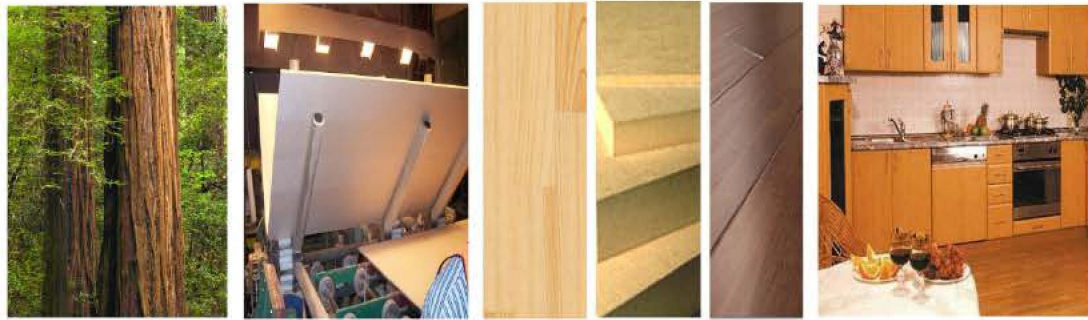
- Established formaldehyde emission limits for composite wood products: particleboard (PB), medium density fiberboard (MDF), and hardwood plywood (HWPW) panels
- Applies to products sold, supplied, used, or manufactured for sale in California
- Requires finished goods (e.g., furniture) to be made from PB, MDF, and HWPW panels that have been third party certified as compliant





# PROPOSED AMENDMENTS

## Title 17, California Code of Regulations, Section 93120



# Objectives

- Clarify requirements and applicability
- Improve enforceability
- Optimize program
- Streamline requirements
- Reflect updated reference materials, advisories, and FAQs



# Proposed Amendments to Exemptions

- Retain exemption for curved plywood
  - Represents small portion of products used in homes and offices
- Exempt hardwood plywood with lumber core or special core material
  - Consistent with FAQ



# Proposed Amendments to Exemptions (*cont*)

- Exempt packaging materials and dunnage
  - Pallets, crates, etc., and loose packing material
  - Consistent with FAQ
- Exempt inventories of replacement parts
  - Provided comply with Phase 1 and made prior to Phase 2 effective date
  - Typically are from obsolete manufacturing lines





# Proposed Amendments to Applicability

- Require platforms used to make HWPW-CC to meet applicable Phase 2 emission standard
  - Improves enforceability of finished goods
  - Most manufacturers currently using compliant platforms
- Require HWPW made with bamboo or cork veneer to comply with the ATCM



# Proposed Amendments to Labeling Requirements

- Clarify that bar codes cannot be sole form of label
- Require fabrication date to be month/year format



# Additional Regulatory Concepts Under Consideration

- De minimus use exemption
- Hardboard
- Laminated products



## Additional Regulatory Concepts

# De minimus Exemption

- Federal law (SB 1660) requires U.S. EPA to establish exemption for de minimus use
- ARB staff agrees in concept with de minimus use exemption
- Will evaluate U.S. EPA regulation and determine if appropriate to include similar exemption in ATCM
  - Public health benefits of ATCM need to be upheld
  - Enforceability





# Additional Regulatory Concepts

## Hardboard

- Hardboard made by 3 processes (wet, semi-dry, dry)
- Some hardboard is made with UF resin, appears similar to MDF; similar uses
- Wet-process hardboard distinguishable from dry-process

Option:

Exempt wet and semi-dry process hardboard; require dry process hardboard to meet MDF standard



Hardwood



Wet-process hardboard



Thin MDF



## Additional Regulatory Concepts

# Laminated Products

- Laminated products consist of wood veneer or synthetic laminate affixed to certified platform
  - Appearance similar to HWPW-CC in finished goods, making enforcement difficult
- ARB staff committed to evaluate emissions from laminated products and determine if current regulatory approach is adequate
- Testing of laminated products also provides information regarding finished goods testing



## Additional Regulatory Concepts

# Laminated Products - Testing

- ARB staff tested 13 different types of laminated products from 10 manufacturers; >30 panels
- Testing consisted of duplicate or triplicate specimens from each panel:
  - as received
  - used sander to remove finish/partial veneer and varying depths below glue line or surface of panels





# Laminated Products Testing - Using a Drum Sander in ARB's Enforcement Facility





## Additional Regulatory Concepts

# Laminated Products - Findings

- Products with UF resin emitted formaldehyde in excess of Phase 2 standards
  - 12 of 22 panels consisting of veneer affixed with UF resin to core exceeded Phase 2 HWPW standard
  - Highest was maple veneer affixed with UF resin to Phase 1 MDF or PB core; emitted up to 1.3 ppm
  - Same product with finish applied to veneer emitted 0.30-0.45 ppm
  - AHFA got similar results for split samples
  - Synthetic laminates (e.g., melamine) also reduce emissions (e.g., 0.03 ppm vs. 0.11 ppm raw PB)
- Deconstructed products emitted similar to raw panel
  - 0.01-0.02 inches removed below veneer and glue line
- Findings suggest the need for change in regulatory approach



## Additional Regulatory Concepts

# Laminated Products - Options being Considered

- Require low-formaldehyde-emitting resin use (i.e., those used in NAF/ULEF products, such as soy, PVA, MDI) and require recordkeeping of resins used to affix laminates
- Require that emissions of laminated products not exceed:
  - Level tied to the allowable emissions of the platform; or
  - One standard for all laminated products





## Additional Regulatory Concepts

# Labeling of Finished Goods



- Labels critical component of enforceability and public transparency
- ATCM requires fabricators to label either finished good(s) or box(es) containing finished good(s)
- Lack of labels creates uncertainty for retailers, consumers and enforcement

### Option:

- Require both the finished goods and box containing finished goods to be labeled



# Initial Reaction to Draft U.S. EPA Regulation

- CARB's goal is to align California's ATCM with U.S. EPA's regulation to the extent feasible





# Next Steps

- Additional data collection
- Evaluate U.S. EPA's draft regulation
- Public workshop
  - Additional Workshop #3 - contingent on complexity of issues and coordination efforts with U.S. EPA, tentatively scheduled for fall of 2012
- ARB Board consideration in 2013



# Contacts



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Composite Wood Products ATCM Website:

<http://www.arb.ca.gov/toxics/compwood/compwood.htm>



# QUESTIONS?

