

**Comment 1 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Charles

Last Name: Davis

Email Address: regalair@cox.net

Affiliation: Regal Air Quality, Inc.

Subject: Comments on CWP Formaldehyde Emissions Report

Comment:

Please see attached document for comments.

Attachment: [www.arb.ca.gov/lists/compwood07/1-comments\\_on\\_arb\\_staff\\_report.doc](http://www.arb.ca.gov/lists/compwood07/1-comments_on_arb_staff_report.doc)

Original File Name: Comments on ARB staff report.doc

Date and Time Comment Was Submitted: 2007-03-19 09:57:22

No Duplicates.

## **Comment 2 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Hal

Last Name: Levin

Email Address: hal.levin@buildingecology.com

Affiliation: Building Ecology Research Group

Subject: CompWood reg

Comment:

1. The target levels of formaldehyde emissions for this regulation are far too high. It makes very little sense to implement this regulatory process without achieving a far more substantial difference in the ultimate exposures of the population.

Formaldehyde is a carcinogen and irritant and a more vigorous effort to control population exposure from CWP is warranted. Substantial reductions in formaldehyde emissions from CWPs have been achieved over the past 25 years through more careful formulation of adhesives and through improved quality control in the CWP manufacturing process. Further reduction is technically feasible and should not be dismissed as the preferable option.

2. Alternative (non-formaldehyde based) adhesives are also available for the proposed regulated products in which formaldehyde is widely used. It is difficult to justify continued population exposure to formaldehyde at the levels contemplated in the proposed regulated in light of this fact and the carcinogen status of formaldehyde.

3. State office buildings (Capitol Area East End Project) have been built during the past five years where far lower criteria were used for formaldehyde emissions. Proportional reductions of more than a factor of three would be appropriate based on the standards used for the State's own office buildings.

4. The economic analysis is flawed in that it does not take into account the cost of ventilation necessary to reduce airborne concentrations of formaldehyde by dilution ventilation to achieve levels that could be achieved more effectively at the one-time first cost of lower emitting CWP. This ventilation has an impact not only on operating costs but also on carbon emissions due to electric power plant operation and emissions. For example, if emissions were reduced by a factor of four, roughly only one-fourth the outdoor air would be necessary to dilute the concentrations in the air according to an oversimplified mass balance model to achieve the same indoor air concentration. Since the emissions from CWP generally have half-lives of several years, this means that several years worth of significantly increased ventilation would be necessary to provide the same protection to the public as would be provided by a reduction in the initial source strength of formaldehyde emissions.

5. CWPs are one of if not the dominant sources of formaldehyde emissions to the indoor environment, especially but not exclusively in residential environments. Outdoor air ventilation

is not generally common or adequate there, mostly provided by incidental leakage of the building exterior "envelope." While energy cost and carbon emission limitations are important current and future constraints on energy consumption to ventilate and to heat and cool outdoor air used for ventilation, the incentives for source strength reduction are likely to increase considerably in the coming years in order to achieve a given level of general population exposure to indoor source pollutants.

6. CARB has had a relatively forward-looking guideline and target for indoor formaldehyde concentrations for many years now. This proposed regulation is far less stringent than what would be necessary to achieve that target. CARB should take more effective action now on this well-known and widely-distributed substance to reduce the future costs of reduction by ventilation or removal and replacement of strong sources, especially the widely-used CWP.

Attachment: [www.arb.ca.gov/lists/compwood07/2-comment\\_by\\_hal\\_levin\\_on\\_carb\\_proposed\\_regulation\\_of\\_cwp.doc](http://www.arb.ca.gov/lists/compwood07/2-comment_by_hal_levin_on_carb_proposed_regulation_of_cwp.doc)

Original File Name: Comment by Hal Levin on CARB proposed regulation of CWP.doc

Date and Time Comment Was Submitted: 2007-03-28 16:51:36

No Duplicates.

**Comment 3 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Joseph

Last Name: Hetzel

Email Address: Jhetzel@taol.com

Affiliation: Door & Access Systems Manufacturers Assn

Subject: Formaldehyde Emissions from Composite Wood Products

Comment:

See attached letter we e-mailed to Jim Aguila in October 2006.

Attachment: [www.arb.ca.gov/lists/compwood07/4-proposed\\_new\\_section\\_93120\\_title\\_17\\_ca\\_code\\_of\\_regs-jaguila-calepa-1006.pdf](http://www.arb.ca.gov/lists/compwood07/4-proposed_new_section_93120_title_17_ca_code_of_regs-jaguila-calepa-1006.pdf)

Original File Name: Proposed New Section 93120 Title 17 CA Code of Regs-JAguila-CalEpa-1006.pdf

Date and Time Comment Was Submitted: 2007-04-04 12:12:51

No Duplicates.

## **Comment 4 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Tom  
Last Name: Sherman  
Email Address: tom@cabinetmen.com  
Affiliation:

Subject: A Couple of Points-----

Comment:

As the owner of a small cabinetshop (under \$1 million/year volume)I'm watching this issue with a some interest.

Despite your assurances, I see a larger than comfortable potential for damage to small shops like mine in several possible ways:

1. The proposal will still allow the importation of non-compliant panels for use in fabrication of products whose eventual destination is outside the state. Just as there are unlicensed, uninsured shops in operation despite the best efforts of the CSLB, these same shops will likely find ways to procure and use these non-compliant panels for in-state distribution. Not only does this have the potential to undercut the small shops with whom these noncompliant shops would be in competition, but we compliant shops will be squeezed from the other side as well, sharing the costs of inspection/compliance/enforcement. Further obfuscating the impact of this issue is a statement on Page 212, subsection titled "Cabinets", which seems to imply that compliance with this program might be voluntary, an unlikely premise given the intent of the proposal.

2. On page 215, under the subsection titled "Remodeling Project", you suggest that the panel costs for a \$25,000.00 kitchen are \$600.00. This subsection refers to Tables VIII-18 & 19, which appear to have been omitted from the proposal. Using Table VIII-17 as a reference, one can extrapolate that a \$25,000 kitchen, using 3/4" maple plywood pre-compliance pricing of \$38, should only require 15-3/4 sheets of plywood for the entire job, including countertops. Both the price per sheet and the number of sheets are understated here, likely by around 20-25% at a guess. This obviously understates, then, the cost impact of the subsequent implementation of Phase 2 standards.

I recently read an article in one of the trade journals (I will be happy to hunt this up and send it along to you, although I suspect you already have it) which contends that the average person emits more formaldehyde from his body than do all the wood products combined in his residence. I mention this, assuming it is true, as a point of interest and reference.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-09 11:35:12

No Duplicates.

**Comment 5 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Andrew

Last Name: Rink

Email Address: AndrewR@jeld-wen.com

Affiliation: JELD-WEN, inc.

Subject: Proposed ATCM to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/7-compwood07-5.pdf](http://www.arb.ca.gov/lists/compwood07/7-compwood07-5.pdf)

Original File Name: compwood07-5.pdf

Date and Time Comment Was Submitted: 2007-04-13 10:09:20

No Duplicates.

## **Comment 6 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: David

Last Name: Harmon

Email Address: David.Harmon@Hexion.com

Affiliation:

Subject: Comments on the ATCM to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Comments - Dynea, GP, Hexion Pg 1 of 5 13 April 2007

To: CalePA, Air Resource Board

From: Dynea North America - Tom Holloway; Georgia-Pacific Chemicals, LLC - Pablo Dopico; Hexion Specialty Chemicals, Inc. - David M. Harmon

Subject: California Air Resources Board (CARB) proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comments representing the position of major resin suppliers in North America for the subject regulation follow. The focus of these comments is the section of the proposal that grants incentives (exemptions) only for no-added formaldehyde resin ["NAF"] systems. This provision places no requirement for actual raw panel emissions produced with a qualifying-exempt system to be lower than those defined in the appropriate tables of the Proposed Regulation Order and is therefore inconsistent with establishing an emission based regulation. Further, it discriminates against formaldehyde-based systems that may yield similar results as NAF systems.

For example, a review of the Best Available Control Technology (BACT) analysis tables [ISOR Chapter V, tables V-22, 24, and 26] reveals the following:

- Identification of a NAF binder system noted to yield ASTM E1333 emissions less than or equal to 0.05 ppm.
- Identification of a formaldehyde-based adhesive system characterized at less than or equal to 0.01ppm.

The Proposed Regulation Order would exempt the NAF binder, but would hold the manufacturer using the formaldehyde based technology accountable for compliance in accordance with the third party testing protocol outlined in the regulation.

More specifically, NAF binders are afforded the opportunity in 93120.3 (e) (1) to qualify for an exemption from compliance with third party certification based on "a demonstration of the emissions performance of the candidate no-added formaldehyde based resins. " However, the criteria required for such a demonstration of emissions performance which warrants consideration for the exemption are not clearly specified in the regulation. Section 93120.3 (e) (4) simply requires that "the evidence submitted by the applicant is sufficient to demonstrate that the applicant can meet the emissions standards specified in section 93120.3 (a)."

This section does not specifically require compliance with phase 2 to obtain approval for exemption. Furthermore, the third party certification which constitutes the backbone of the assurance and



enforcement protocols in the regulation are thus not required of NAF binders. In contrast, the same opportunity for an exemption from third-party certification and ongoing testing is not offered to formaldehyde-based binders.

We recommend that a level playing field be established for all adhesives (and panel products produced from those adhesives) that is performance-based and technology encouraging. A potential solution is to require all adhesive categories to comply with the testing protocol outlined in the regulation and grant a panel manufacturer exempt status only once the third-party certified data obtained in accordance with 93120.3 (b) indicates that the combination of

Comments - Dynea, GP, Hexion Pg 2 of 5 13 April 2007

adhesive system and panel processing conditions yields the desired results (for example, achieving the applicable Proposed Phase 2 level defined in the regulation or a percentage thereof). The benefits of this approach are:

- establishes clearly defined emission characteristics for exempt-eligible panel products that may be lower than the current criteria,
- encourages both short and long term adhesive and panel manufacturing innovation commensurate with potential for acquiring exempt status based on documented emission performance,
- eliminates the uncertainties associated with formaldehyde emission component variability (substrate, adhesive, and other processing conditions), and
- enables a panel manufacturer to establish cost/benefits associated with establishing exempt status.

Detailed Background and Comments

Staff has repeatedly indicated during preceding workshops that they do not intend to deselect formaldehyde based resins, but when they grant an exemption to no-added formaldehyde ["NAF"] products that is not available to equivalently low-emitting formaldehyde bonded products, such as the PF-bonded particleboard that they describe in the BACT analysis, they are de facto deselecting the formaldehyde-based options. The additional costs for formaldehyde-based resin bonded products due to QA testing requirements, third party certification, and the liability of penalties for non-compliance that are not equally imposed on the no-added formaldehyde products may very well drive board manufacturers to select the no-added formaldehyde option even though the performance criteria could be met with a formaldehyde-based resin (which is thereby "deselected").

As was pointed out by Mr. Will Warburg (Plum Creek Timber Company) at a recent Public Workshop, switching from the current UF resins to PF resins would result in a manufacturing capacity decrease of about 20% in a MDF plant. Other companies' experiences in particleboard manufacturing plants have shown even more drastic reductions in productivity with the use of PF resins.

Currently, North America consumes approximately 3 billion pounds of UF-based resins annually. Given that California consumes about 10% of the products made with UF-based resins, this translates into about 300 million pounds to meet current market demands - not counting imports. There is not enough existing resin manufacturing capacity, especially among NAF sources, to replace this volume. Even converting existing UF manufacturing capacity to manufacture the performance-equivalent replacement amount of PF production would be highly unlikely in the timeframe allowed under the proposed regulation order. Further, we anticipate that the impact will be larger than that which has historically been observed due to the California market alone. No commercially viable binding technology exists for composite products except hardwood plywood

that does not include the use of formaldehyde.

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Therefore, we recommend a "level playing field" for all adhesives, and the products made from those adhesives. We would support a beneficial approach that is performance-based and technology encouraging. In fact, the Staff Report (ISOR) provided nearly all the elements necessary to define a performance-based criterion. A review of the BACT analysis tables [ISOR Chapter V, tables V-22, -24 & -26] listing emission characteristics of products that will meet the proposed Phase 2 emissions requirements made with "no-added formaldehyde" shows three SierraPine MDF products with ASTM E1333 emissions < 0.05 ppm. Under exemption application provisions in the Proposed Regulation order [ISOR Appendix A, section 93120.3(e)(1-6)], "[T]he Executive Officer shall issue an Executive Order approving the application if the evidence submitted by the applicant is sufficient to demonstrate that the applicant can meet the emission standards specified in section 93120.2(a) through the use of no-added formaldehyde based resins. The approval shall have a duration of two years, and the manufacturer may reapply for approval as provided in this section."

Additional review of the above-cited BACT analysis tables reveals that Roseburg's Skyblend® Particleboard emissions are characterized at < 0.01 ppm, which is substantially lower than the < 0.05 ppm emissions listed for SierraPine's NAF MDF products. Also, other listed products that are manufactured using formaldehyde-based resin systems are shown with emissions equal to or less than those for the NAF, exemption-candidate SierraPine MDF products.

Therefore, the ability of select formaldehyde-based bonding systems to provide low formaldehyde emissions equivalent to NAF-based bonding systems has been established. The demonstration techniques (ASTM E1333 or correlated equivalent ARB-approved methodology) are also equivalent.

ARB Staff has provided the concept of "Near-zero emission" ["NZE"] (ISOR, Ch V, Tables V-24 & V-26) products that can be cohesively defined to bridge existing gaps and provide the basis for a performance-based, technology-encouraging, and mutually beneficial modification to the Proposed Regulation Order.

Specifically, it is proposed to establish a common, performance-based category for third-party certification exemption eligible "Near-zero" formaldehyde emission products ["NZE"] as those having an ASTM E1333 measured or extrapolated formaldehyde emission meeting the applicable Phase 2 emissions limit or some percentage thereof. This would replace the currently defined "no-added formaldehyde resins" in the body of the Proposed Regulation Order, and would be exemption eligible under application and performance terms as otherwise stated.

It should be specified in the regulation that screening testing and enforcement testing will be conducted on all products equally, including those granted exemption under applicable sections of the regulation order.

Comments - Dynea, GP, Hexion Pg 4 of 5 13 April 2007

Benefits:

This would place a reasonable and clearly defined criterion for the emissions characteristics of exemption-qualifying products. This approach encourages both short and longer term resin and manufacturing process development with commensurate potential for certification exemption based on documented performance equivalency for all competing resin and manufacturing technologies.

While product volumes manufactured with technology-forcing

"no-added formaldehyde" resins might be sufficient to meet the consumption needs of the State of California, they are not adequate to fulfill the needs of other States and/or countries that are likely to follow California's emissions limiting regulation lead. Incorporation of the "Near-zero" proposal would additionally encourage global development of comparably performing products.

Rational:

This proposal will formally and fairly recognize achievement of desired results under consistent and defined criterion. It does not diminish achievement based on labels or perception.

Wood products manufacturers will have clearly defined performance guidelines, by which they can evaluate their opportunities and options, along with more accurately determining the associated costs. This is key to their business decision process.

References:

ISOR Ch V, Pg 63: "In general, staff projects that BACT will be based on reformulated UF resins. However, the proposed regulation provides an incentive for panel manufacturers to convert to no added HCHO resins early by not having to comply with the requirement to perform quarterly emission tests of their products under a third party certification program."

ISOR Ch V, Section A.3., Table V-2 (Pg 68) indicates that under Japanese Building Stand Law Classifications that F\*\*\*\* board usage has no restrictions.

ISOR Ch V, § E (Pgs 101 - 106), presents the Technical basis for the Proposed Emission Standards and introduces the concept of "Near-zero HCHO Emissions.

ISOR Appendix A (Proposed Regulation Order), Section 93120.1(a)(25) [Pg A-4] defines "[N]o-added formaldehyde based resins" means resins formulated with no-added formaldehyde as part of the resin cross linking structure for making hardwood plywood, particleboard, or medium density fiberboard. "No-added formaldehyde based resins include, but are not limited to, resins made from soy, polyvinyl acetate, or methylene diisocyanate."

Comments - Dynea, GP, Hexion Pg 5 of 5 13 April 2007

ISOR Appendix A (Proposed Regulation Order), Section 93120.3(e)(1) provides for exemption from third party certification for manufacturers who plan to use no-added formaldehyde based resins.

ISOR Appendix A (Proposed Regulation Order), Section 93120.3(e)(4) provides that "[T]he Executive Officer shall issue an Executive Order approving the application if the evidence submitted by the applicant is sufficient to demonstrate that the applicant can meet the emission standards specified in section 93120.2(a) through the use of no-added formaldehyde based resins. The approval shall have a duration of two years, and the manufacturer may reapply for approval as provided in this section."

Attachment: [www.arb.ca.gov/lists/compwood07/8-industry\\_comments\\_to\\_carb\\_-\\_041307\\_final.pdf](http://www.arb.ca.gov/lists/compwood07/8-industry_comments_to_carb_-_041307_final.pdf)

Original File Name: Industry Comments to CARB - 041307 Final.pdf

Date and Time Comment Was Submitted: 2007-04-13 15:32:02

No Duplicates.

**Comment 7 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Brock  
Last Name: Landry  
Email Address: brlandry@venable.com  
Affiliation: California Wood Industries Coalition

Subject: CWIC Initial Comments on Composite Wood ATCM  
Comment:

Attached are initial comments (in pdf format) of the California Wood Industries Coalition dealing with various language and technical aspects of the draft regulation. Substantive comments on other issues with the regulation will follow.

Attachment: [www.arb.ca.gov/lists/compwood07/10-scan001.pdf](http://www.arb.ca.gov/lists/compwood07/10-scan001.pdf)

Original File Name: Scan001.PDF

Date and Time Comment Was Submitted: 2007-04-16 07:50:47

No Duplicates.

**Comment 8 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Leah  
Last Name: Rose  
Email Address: lrose@formaldehyde.org  
Affiliation: Formaldehyde Council, Inc.

Subject: Formaldehyde Council, Inc. Comments  
Comment:

Dear California Air Resources Board Clerk,

Please see the Formaldehyde Council, Inc.'s comments on the Composite Wood Products Airborne Toxic Control Measure attached for distribution to the Board.

Thank you for your assistance.

Regards,  
Leah Rose  
Manager, Regulatory Affairs  
Formaldehyde Council, Inc.

Attachment: [www.arb.ca.gov/lists/compwood07/14-fci\\_carb\\_cwp\\_comments\\_04-16-2007.pdf](http://www.arb.ca.gov/lists/compwood07/14-fci_carb_cwp_comments_04-16-2007.pdf)

Original File Name: FCI CARB CWP Comments 04-16-2007.pdf

Date and Time Comment Was Submitted: 2007-04-16 11:30:23

No Duplicates.

**Comment 9 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Juhani  
Last Name: Haikala  
Email Address: juhani@pdusa.com  
Affiliation: Plywood & Door Mfrs. Corp.

Subject: Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Panels

Comment:

When reading the proposal I could not help but notice that softwood plywood seems to be excluded. I realize that most softwood plywood is bonded with phenol formaldehyde adhesive but so is much of the hardwood plywood that we sell. Reading the regulation it would appear that hardwood plywood panels used in formwork would be regulated but that softwood plywood panels would not be. This would create an uneven playing field without improving public health. I would hope that all panel products would fall under the regulation if adopted. Thank you.

Juhani Haikala  
Plywood & Door Mfrs. Corp.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-16 14:54:29

No Duplicates.

**Comment 10 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tom  
Last Name: Higgins  
Email Address: thiggins@prosetta.com  
Affiliation:

Subject: The Formaldehyde-Free Coaliton FAQ's  
Comment:

Comments attached

Attachment: [www.arb.ca.gov/lists/compwood07/17-2007.04.16\\_frequentlyaskedquestions.doc](http://www.arb.ca.gov/lists/compwood07/17-2007.04.16_frequentlyaskedquestions.doc)

Original File Name: 2007.04.16 FrequentlyAskedQuestions.doc

Date and Time Comment Was Submitted: 2007-04-16 16:10:20

No Duplicates.

**Comment 11 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tom

Last Name: Higgins

Email Address: [thiggins@prosetta.com](mailto:thiggins@prosetta.com)

Affiliation: Formaldehyde-Free Coalition

Subject: City of Los Angeles Resolution in support of CARB action

Comment:

Please see attachment.

Attachment: [www.arb.ca.gov/lists/compwood07/19-formaldehyde\\_reso.pdf](http://www.arb.ca.gov/lists/compwood07/19-formaldehyde_reso.pdf)

Original File Name: Formaldehyde reso.pdf

Date and Time Comment Was Submitted: 2007-04-17 09:55:40

No Duplicates.



**Comment 12 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tom

Last Name: Higgins

Email Address: [thiggins@prosetta.com](mailto:thiggins@prosetta.com)

Affiliation: Formaldehyde-Free Coalition

Subject: Letter in support of proposed regulations

Comment:

Please see attachment.

Attachment: [www.arb.ca.gov/lists/compwood07/20-letter\\_of\\_support\\_to\\_carb\\_on\\_formaldehyde.pdf](http://www.arb.ca.gov/lists/compwood07/20-letter_of_support_to_carb_on_formaldehyde.pdf)

Original File Name: Letter of Support to CARB on formaldehyde.pdf

Date and Time Comment Was Submitted: 2007-04-17 10:00:38

No Duplicates.

**Comment 13 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tom  
Last Name: Lent  
Email Address: tlent@healthybuilding.net  
Affiliation:

Subject: Testimony on Composite Wood ATCM  
Comment:

Thank you for this opportunity to submit testimony in support of a strengthened Composite Wood ATCM. I strongly support the Air Resources Board consideration of this issue and urge the Board to strengthen requirements of the staff proposal in the interest of saving lives and reducing the human and economic cost that formaldehyde emissions exact on California citizens.

In my attached testimony I discuss the context of this regulation and how it is an important complement to efforts already underway to protect human health from this toxicant.

Thank you.

Attachment: [www.arb.ca.gov/lists/compwood07/22-composite\\_wood\\_atcm\\_testimony\\_to\\_carb\\_by\\_hbn.pdf](http://www.arb.ca.gov/lists/compwood07/22-composite_wood_atcm_testimony_to_carb_by_hbn.pdf)

Original File Name: Composite Wood ATCM testimony to CARB by HBN.pdf

Date and Time Comment Was Submitted: 2007-04-17 19:37:21

No Duplicates.

## **Comment 14 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: C. Richard

Last Name: Titus

Email Address: dtitus@kcma.org

Affiliation: Kitchen Cabinet Manufacturers Associatio

Subject: KCMA Comments on ATCM for Composite Wood Products

Comment:

The Kitchen Cabinet Manufacturers Association (KCMA) is the national trade association for manufacturers of kitchen cabinets, bath vanities and cabinets for other rooms. The association was founded 53 years ago and now has 380 members. KCMA member companies who manufacture or market in California account for 50% to 60% of the California market. It should be pointed out that California is unique in that there are approximately 1,200 small cabinetmaking shops (1-20 employees) operating in California. This is approximately 60% more than any other state. Thus, the proposed ATCM will have an enormous impact on small businesses across the state, particularly when you factor in the many components of the distribution chain - retailers, home centers, remodelers, and builders.

Since virtually all cabinetry produced today contains a mixture of solid wood, particleboard, plywood or medium density fiberboard, the proposed ATCM on compwood is very significant to this industry. The proposed ATCM has the potential to disrupt existing supply chain relationships, contribute to possible material shortages in the future, impose a significant paperwork burden on all manufacturers, and greatly increase liability for cabinet manufactures and their suppliers. The regulation is certain to increase manufacturing costs, likely more than estimated by the CARB staff, and, therefore, is a major cause of concern when global competition threatens all U.S. manufacturing. Today, cabinet manufacturing remains a predominately North American industry. That could change.

Considering the huge additional cost and questionable ability of composite wood producers to meet the extremely low emission levels of Phase II of the proposed ATCM, we request the Board to lower the Phase II ceiling values to achievable levels requested by the California Wood Industry Coalition.

The Board needs to understand that the ATCM will become a de facto national standard. KCMA members with production outside the state but who market in California will be forced to use only ATCM compliant materials in order to insure compliance. Today's advanced production technology makes it impossible to track individual pieces obtained from a specific composite wood panel so as to verify compliance. I am aware of no company, other than those operating in California, that could dedicate an entire plant's operations exclusively to products for the California market and remain competitive.

The ATCM defines cabinet manufacturers as "fabricators." KCMA agrees with the approach taken in the ATCM to focus testing requirements on the composite wood products used to make cabinetry and not on the finished product. It would be extremely difficult and costly to develop test methodology for the vast array of possible combinations of materials and sizes typical of industry products. The certification requirements and so-called "paper trail" contained in the ATCM and required through the cabinet manufacturing/distributor chain should provide the necessary information for enforcement and notice purposes.

There is no reason to exclude local government agencies or school districts from the definition of "fabricator," particularly if they will engage in commerce and compete with those who are regulated.

Key elements of the enforcement phase remain vague and incomplete.

For example, how the regulation will be enforced with hundreds of small cabinet makers in the state who go direct to the consumer versus cabinets obtained by enforcement officials from retail operations still is unclear. The regulation, particularly Phase II could lead to material shortages, which would drive prices up and devastate small companies who would find it more difficult to compete with larger companies who often are able to obtain supply advantages due to the size and volume of their activities.

It appears that the cost estimates both for cabinet manufacturers and home buyer/remodelers have been underestimated by 20 percent or more. Contrary to the assumption in the staff report, cabinet manufacturers typically are able to achieve approximately 80% efficiency from the composite panel products used to produce the requisite cabinet parts; not the 100% yield assumed in the staff report.

It was difficult to fully address this issue since two tables (VIII, 18 & 19, p. 215) referenced in the report were not available for review. Nonetheless, it appears that the added cost to consumers and to manufacturers is seriously understated in the report.

We question the wisdom of a regulatory approach that rewards unproven or questionable substitute adhesives, many of which have safety and health issues of their own. Substitute products need to prove themselves under actual manufacturing/real usage conditions over an adequate period of time to determine their acceptability. There has been little or no discussion of the performance characteristics of proposed alternatives to compwood. For example, there have been reports of delamination problems from the formaldehyde-free soy substitute touted in several of the public workshops. Phenol formaldehyde can have appearance issues, based on experience in the cabinet industry.

Those who purchase cabinetry expect them to last many years. Research by the National Association of Home Builders (NAHB) has found that cabinets last an average of 50 years. In comparison, appliances last only 13-15 years, steel sinks 10, and cultured marble countertops 20, two and one-half times less than cabinets. The UF products used by the cabinet industry have a long history of helping to achieve this standard. The industry is concerned that without the benefit of additional pilot studies or adequate time to effectively gauge the performance characteristics of the substitute products against the real-life conditions typical for

our products, the hard-won reputation for durable, fashionable and long-lasting cabinetry could be lost or damaged. Any loss of consumer confidence would do irreparable harm to the industry.

CARB staff has done a most commendable job in compiling its 200+ page report on formaldehyde. Absent, however, is reference to the ongoing effort at the U.S. EPA, the National Cancer Institute, and others in the scientific community to better measure and assess the risk from exposure to low levels of formaldehyde.

Before implementing Phase II of the proposed ATCM, we request that CARB consider the latest science developed since the IARC decision and adjust your 1992 formaldehyde risk assessment as appropriate. With formaldehyde being a naturally occurring substance for thousands of years, clearly there is a safe exposure level. An accurate determination of risk is essential.

We believe that requiring both product labeling and written notice on contracts or bills-of-lading (93120.7(d) (1) and (2) is duplicative and imposes an unnecessary additional paperwork burden, particularly on smaller companies. We suggest that the labeling requirement, with the option to present the required information on the cardboard boxes in which cabinets most often are shipped, is the best alternative.

Finally, the sell-through provisions in the ATCM require U.S. fabricators of cabinets to be in compliance within 12 months while importers are granted 18 months to come into compliance. This is very unfair to U.S. manufacturers and should be changed. This provision alone could force many U.S. companies out of business.

Thank you for the opportunity to present our concerns and to be involved in these important deliberations. CARB staff has managed an open process and given KCMA opportunity to comment and react to several drafts of the ATCM. The proposal before you reflects this process. Hopefully, you will agree with our remaining concerns and incorporate these suggestions as a way to strengthen the final regulation.

Yours truly,  
C. Richard Titus  
Executive Vice President  
Kitchen Cabinet Manufacturers Association  
1899 Preston White Drive  
Reston, VA 20191  
(703) 264-1960/FAX (703) 620-6530

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-19 11:20:22

No Duplicates.

**Comment 15 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: George  
Last Name: Alexeeff  
Email Address: Non-web submitted comment  
Affiliation: OEHHA

Subject: Staff Report Re: the ARB's Proposed ATCM for Formaldehyde from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/24-compwood07-15.pdf](http://www.arb.ca.gov/lists/compwood07/24-compwood07-15.pdf)

Original File Name: compwood07-15.pdf

Date and Time Comment Was Submitted: 2007-04-19 12:55:56

No Duplicates.

**Comment 16 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Bill Altman  
Last Name: Gail Overgard and  
Email Address: hpva@hpva.org  
Affiliation: Hardwood Plywood & Veneer Association

Subject: HPVA comments regarding the March 9, 2007 "Proposed ATCM to Reduce  
Formaldehyde Emissions

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/25-compwood07-16.pdf](http://www.arb.ca.gov/lists/compwood07/25-compwood07-16.pdf)

Original File Name: compwood07-16.pdf

Date and Time Comment Was Submitted: 2007-04-19 13:05:25

No Duplicates.

**Comment 17 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Elizabeth

Last Name: Whalen

Email Address: ewhalen@cfpwood.com

Affiliation:

Subject: Columbia Forest Products Comments on Proposed ATCM

Comment:

Comments attached...

Attachment: [www.arb.ca.gov/lists/compwood07/26-columbia\\_forest\\_products\\_comments\\_04-19-07.zip](http://www.arb.ca.gov/lists/compwood07/26-columbia_forest_products_comments_04-19-07.zip)

Original File Name: Columbia Forest Products Comments 04-19-07.zip

Date and Time Comment Was Submitted: 2007-04-19 18:47:35

No Duplicates.



## **Comment 18 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Daniel  
Last Name: Smith  
Email Address: Dan@plyboo.com  
Affiliation:

Subject: Proposed New CARB Regulations on Formaldehyde  
Comment:

Re: Proposed New CARB Regulations for Formaldehyde

Smith & Fong Company has been in the bamboo business in the state of California for more than 17 years. We are a national manufacturer and distributor of bamboo flooring and 100% bamboo plywood with all of our products manufactured in Asia. Our products can be found in residential, commercial and institutional environments including national retail and hotel chains and major American Universities. We are the largest manufacturer and distribution of bamboo panel goods in the United States.

Our company policy has always been to manufacture the highest quality, environmentally friendly building products, and to continually improve and advance our technology to this end. Formaldehyde has been an issue in the industry for some time and we have made great efforts to address this problem.

Today we produce a coconut palm flooring and panel good product with zero added formaldehyde and all our flooring and bamboo panels meet and exceed the phase II standards for HWPW proposed by CARB. We have engaged independent testing using the ASTM-E1333 protocol to support our work. In fact by year end we will introduce our first line of zero formaldehyde bamboo flooring and bamboo sheet good products.

We at Smith & Fong have always seen sustainability and chemical free building products as more of an opportunity and a welcome challenge to innovate than an inhibitor to business growth. In conclusion, we support and applaud CARBs work in advancing the interests of a cleaner and healthier environment for our children and for generations to come.

Daniel Smith  
Smith & Fong

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-19 19:42:21

No Duplicates.

## **Comment 19 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Tom  
Last Name: Cooper  
Email Address: thomas.cooper@kp.org  
Affiliation: Kaiser Permanente

Subject: Kaiser Permanente's Position on ATCM  
Comment:

On behalf of Kaiser Permanente I would like to thank the California Air Resources Board (CARB) for their excellent work in researching the issues associated with formaldehyde exposure and risk. As one of the largest employers in California and with more 6.3 million members of our health plan, Kaiser Permanente is extremely concerned with the health impact of toxic materials to our staff, patients, and the communities we serve. We commend the CARB for raising the dangers of formaldehyde exposure to the light of public discourse.

Because composite wood products are made using large amounts of urea formaldehyde resins as a binder, these products create formaldehyde emissions that are toxic. The CARB estimated that as much as 800 tons of formaldehyde were emitted in California from composite wood products in 2002 (based on products consumed between 1983 and 2002) leading to hazardous concentration levels in the air in buildings, including the hundreds of clinics, hospitals, and other buildings in California owned by Kaiser Permanente. California has recognized that there is no known safe level of formaldehyde, as the Office of Environmental Health Hazards Assessment (OEHHA) determined that the safe reference exposure level (CREL) for formaldehyde was lower than the level of formaldehyde already in the ambient air.

Less than three years ago, in 2004, the World Health Organization's International Agency for Research on Cancer (IARC) updated its report on formaldehyde. Based on new information from studies of persons exposed to formaldehyde, IARC changed its position that formaldehyde was a "probable carcinogen" to conclude that formaldehyde is "carcinogenic to humans". And as we all know cancer is one of the leading causes of illness and deaths in California and in the nation. In addition to IARC, other national and international regulatory agencies have determined that formaldehyde is a public health and occupational concern. The list includes The National Toxicology Program (NTP), The National Institute for Occupational Safety and Health (NIOSH), and The Association of Occupational and Environmental Clinics (AOEC). The EPA Integrated Risk Information System (IRIS) found that formaldehyde is a probable human carcinogen in animal studies. Moreover, the EPA under the Clean Air Act, has concluded that formaldehyde is a hazardous air pollutant.

Kaiser Permanente has long understood the connection between environmental hazards and health outcomes. We have been very active in our attempts to remove toxic materials from our

facilities that pose a risk to our staff and patients. We have been diligent in our efforts to evaluate the products we purchase and materials we use for their impact on workplace, patient, and environmental safety. The result of this effort is that all our facilities are virtually mercury free and we have removed other persistent bioaccumulative toxins such as DEHP and polyvinyl chloride from most of the products we purchase. Where less toxic alternatives have not existed we have pushed the market place to develop safer products.

Based on the plethora of information raising concerns about formaldehyde exposure in occupational settings, in buildings, and in ambient air, Kaiser Permanente has taken the position that it is one of our chemicals of concern. This has meant that Kaiser Permanente has researched alternative products that do not contain formaldehyde. Our overall goal has been to replace products that pose a danger to our staff, patients and the public with safer materials without added cost.

We have an active campaign to reduce formaldehyde in the furniture, fabric, casework, and building insulation we use in our facilities. However, the cost of many of the alternatives are significantly higher than those products containing formaldehyde. We find this primarily due to these alternatives not having a significant enough market share to be cost competitive with those products that pose a health risk.

If we look at the larger picture and include the health care cost to the State as a whole in treating cancer patients and others whose condition may be impacted by their exposure to formaldehyde, then the cost of inaction is far greater to all of us. We urge CARB to adopt stricter guidelines for formaldehyde levels as this set the climate for manufacturers to develop formaldehyde-free alternatives that will be competitive in the marketplace. As a large purchaser in California we can't make this market change to safer materials without your support. For the sake of the health of all of us we strongly support CARB's efforts to protect Californians from this known carcinogen.

Thank you,  
Tom Cooper  
Kaiser Permanente  
Chairperson, High Performance Buildings Committee

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-20 10:34:41

No Duplicates.

## **Comment 20 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Jan

Last Name: Stensland

Email Address: Jan@InsideMatters.com

Affiliation:

Subject: Support to reduce formaldehyde emissions from composite wood products

Comment:

Comments regarding the reduction of formaldehyde emissions from composite wood products:

Other health experts, I'm sure, will testify to the Board on specific health issues related to formaldehyde so I will not address them in my comments. A good deal of my work correlates health issues with business issues as they relate to the built environment.

Unlike 50 years ago, we now spend 90% of our time indoors where the air is 10-100 times more polluted than the outside air. Formaldehyde is ubiquitous in the indoor environment and comes from a wide variety of sources. It is found in every air sample taken in indoor air studies (EPA, EPA BASE Study) and has been found at levels known to be hazardous in California Schools. It is a known respiratory irritant.

Respiratory illness is the number one reason why people miss work. Upper respiratory illness, such as the common cold, is most often thought of as it affects all of us. Asthma is a lower respiratory illness, affects 16-17% of the population in the USA, and has been rising significantly in the last several years. The asthma rate for children in some California counties ranges as high as 27-30%. (Fresno School District) The cost of asthma to the national economy was \$20 billion in 2005. (American Lung Assoc.) School funding is based on attendance so the healthier children are, the better they do in school, the fewer days they miss, the fewer work days their parents miss taking care of them, and the more funding the (already financially strapped!) schools can use. Correspondingly, the healthier adults are, the more productive, so our teachers would also benefit from increased. (William Fisk, Lawrence Berkeley National Laboratory)

Formaldehyde has long been recognized as a major indoor air pollutant, health hazard, and respiratory irritant. It is the only toxin for which there is a specific credit for elimination in the LEED (Leadership in Energy and Environmental Design) rating system, which is used world wide for the evaluation of green and healthy buildings. More and more organizations across the country are including formaldehyde-free products as a requirement in their EPP (Environmentally Preferable Purchasing) programs, especially healthcare companies (Kaiser Permanente, Hackensack Medical Center, Dell Children's Medical Center, Providence Newberg Medical Center, etc.). Many schools are adopting the CHPS program (Los

Angeles Unified, San Francisco Unified, etc. - www.chps.net) and requiring lower emitting materials.

These organizations can make these decisions because there are readily available, cost and performance comparable, durable materials already on the market that have removed formaldehyde from their formulations.

Given that there are no formaldehyde exposure standards in the United States for children, the proposed effort by CARB is a major move forward in the realm of prevention in children's health and should be applauded.

Qualifications for Jan Stensland:

Masters of Science in Human Environment Relations-Applied Research (Indoor Environmental Quality) from Cornell University. US Green Building Council Faculty and advisor to the Indoor Air Quality Technical Advisory Group.

Jan has worked for several years in green building and design, specializing in healthy and sustainable building materials. Through her company, Inside Matters, she provides indoor environmental quality and sustainable design consulting, education, policy development, and research to a wide variety of clients including the Air Force Center for Environmental Excellence, Alameda County Waste Management Authority, University of California Office of the President, and Kaiser Permanente (KP) where she was the in-house healthy and green building expert. When she helped run the Green Building Program for the City and County of San Francisco, she also advised and testified to the School Board on healthy buildings for children and was an advisor to the San Francisco Asthma Task Force. More information is available upon request.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-20 10:40:04

No Duplicates.

**Comment 21 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Steven  
Last Name: Parker  
Email Address: sparker@bparch.com  
Affiliation:

Subject: Reduction of Formaldehyde emissions in composite wood products  
Comment:

I am an architect of public schools here in California and I am very much in favor of any reduction of formaldehyde emissions. One of the greatest contributors of these emissions in a school classroom is the casework. Almost all classrooms contain some cabinetry and in most cases it tends to be inexpensive product that is mass produced in mills in the Pacific Northwest and trucked here. Standard in the industry is plastic laminate surfacing on some type of particle board. The cost effectiveness of this product has caused it to become pervasive within our schools. This problem is exacerbated by the fact that classroom standards require more casework for elementary schools than standards for upper level classrooms. This means that we are subjecting our youngest students to higher levels of these emissions than older students. There are many reasons for adopting these reductions but the most important is the benefit it will have for California students.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-20 11:14:33

No Duplicates.

**Comment 22 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Elizabeth

Last Name: Whalen

Email Address: ewhalen@cfpwood.com

Affiliation:

Subject: Report provided to CARB Staff on PVA and China

Comment:

see attached PDF

Attachment: [www.arb.ca.gov/lists/compwood07/31-columbia\\_carb\\_briefing-pva\\_testing-2-07.pdf](http://www.arb.ca.gov/lists/compwood07/31-columbia_carb_briefing-pva_testing-2-07.pdf)

Original File Name: Columbia CARB Briefing-PVA Testing-2-07.pdf

Date and Time Comment Was Submitted: 2007-04-20 11:46:11

No Duplicates.



## **Comment 23 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Michael  
Last Name: Zimmerman  
Email Address: mzimmerman@sauder.com  
Affiliation: Sauder Woodworking Co.

Subject: Proposed ATCM Composite Wood Regulation  
Comment:

To the Board of California Air Resources Board (CARB)  
Thank you for the opportunity to share some of our concerns regarding the proposed CARB measure. Sauder fully supports CARB's efforts to ensure that participants in the furniture and composite panel industry are responsible stewards of the environment. However, the keys are to do so in a way that maintains a level playing field for all competitors, and in a way that does not materially damage the overall furniture industry. With these goals in mind, we are asking CARB to consider a number of significant concerns regarding the proposed formaldehyde emission regulations.

Testing:

Our first concern is in the area of testing. Furniture Emission Testing in laboratories has shown high error rates in measuring low emissions of formaldehyde. In fact studies have shown a 30% error rate within a single lab, and around 45% between labs (Howard-Reed & Nabinger ASTM report 2006; Zhang BIFMA 2007 see attached documents). Given these error rates, an enforcement action based on a single test result would be meaningless and arbitrary. Realistically, the only way to have any level of confidence that a component is in compliance with the regulation would be to run a series of tests on the same component and look for a correlation within the results. These error rates highlight the difficulty in detecting and measuring low levels of formaldehyde.

The measurement issue is further complicated by the fact that formaldehyde can be found in many finishes for engineered wood panels. When the composite panel acts as a "sink" and absorbs formaldehyde from the finish, it becomes virtually impossible to determine whether a non-compliant test result was due to the board or the finish. It concerns us that no correlation work has been done on removing various finishes from a panel and comparing that to the raw substrate. The scientific foundation for determining whether a non-compliant finding is due to the composite panel or due to any of a number of other sources of formaldehyde has not been firmly established.

Enforcement:

Although we recognize that CARB has tried to maintain a level playing field, we have grave concerns about the measurement and enforcement of the proposed regulation. The sheer volume of

products and increasingly global nature of the furniture industry creates daunting challenges for enforcement. Producers and users of composite panels represent a multi-billion dollar, global industry with literally tens of thousands of participants. Even if reliable test methods were available, the sheer volume of products and sources would make effective auditing and enforcement extremely difficult. Without effective test methods, enforcement becomes an insurmountable challenge.

This challenge is further complicated by the fact that most furniture manufacturers use a variety of board specifications from a variety of sources. In Sauder's case, it is not uncommon for a single furniture item to have material from five or more mills. It is entirely possible that a piece of furniture that is compliant as a whole could have individual components that are non-compliant. Full compliance testing would require testing each individual component on each piece of furniture.

In addition, creating a piece of furniture often requires a complex mix of technologies. It is common, especially in Asian companies, to employ a network of sub-suppliers each producing certain components that are then assembled into the finished product. Trying to police and certify such a vast network of industry participants does not seem feasible given the test methods and associated costs.

#### Compliance Cost:

When regulations can be met through cost neutral methods, testing and enforcement concerns are dramatically reduced. Essentially, when the cost of compliance is minimal, there is no incentive to "get around the system". The ethical companies who strive for full compliance are not at a competitive disadvantage to those who "game" the system for their personal advantage. Unfortunately, the proposed CARB regulations have a significant cost impact for the furniture industry.

Phase I: Although more stringent than the current Composite Panel Association's Environmentally Preferred Product (EPP) standards, the Phase I emission limits appear reasonable. In all likelihood these levels can be reached with known technology and without a meaningful impact on prices or overall competitiveness of the U.S. furniture industry.

Implementing Phase I regulations will, however, entail a range of hidden costs including lot traceability, testing, and third party certification. Fortunately, due to the largely cost-neutral nature of achieving the Phase I emissions, we believe that most competitors will voluntarily comply with this regulation. Phase II, however, is a different story.

Phase II: Meeting Phase II emission levels will require radically different resin systems and processing methods. Unfortunately, all known processes for achieving Phase II emission levels are significantly more expensive than current processes, and some will require large capital investments to retrofit mills.

CARB acknowledged that there would be a cost increase at the panel manufacturing level as well as the product manufacturing, and retail levels as a result of the proposed regulations. However, CARB did not accurately reflect the cost build-up and ultimate impact on the increased cost at the consumer or retail level.

In order to fully appreciate the impact of the anticipated cost increases, allow us to illustrate the cost build-up from the cost

of panels to the ultimate retail sales price. The following example uses a conservative 25% increase in manufacturer's panel costs. It also includes typical margin percentages at the various levels of the supply chain.

Phase II Cost Multiplier Effect 25% Increase in board cost:

Supply Chain Element:	Assumptions	Current Cost	Phase II Cost	Cost Increase
Panel Raw Material Cost	25% PII cost	\$20.00	\$25.00	\$5.00
Invoice to Sauder	30% board mill	\$28.57	\$35.71	\$7.14
Total Unit Cost	50% board cost	\$57.14	\$64.28	\$7.14
Net Selling Price	35% Sauder	\$87.91	\$98.89	\$10.98
Customer Invoice	10% program	\$97.68	\$109.88	\$12.20
Consumer Retail Price	45% retailer	\$177.60	\$199.78	\$22.18

The fact is that the manufacturer's increased cost is not just added on the top as the CARB staff report suggests. In reality, there is a multiplier effect. As you can see from the table above, a 25% or \$5.00 increase in the cost of the composite panel becomes roughly a \$22.18 (13 %) increase to the consumer at retail. The cost increase of 30% for particleboard and 40% for MDF, as projected by CARB, would lead to a proportionately higher cost to the consumer.

Even if all industry participants comply with the proposed regulation and CARB is somehow able to create a level playing field, the proposed regulation would have a dramatic impact on the furniture industry. Basic economics tells us that when prices go up, demand goes down. While it is impossible to accurately predict the price elasticity of consumers, there is no doubt that there will be a negative impact on sales volume. The result of higher retail prices will be a contraction within the industry and a significant net loss of jobs. And, let's not forget about the consumer. He or she will pay a significant price to reduce the trace emissions of this naturally occurring substance.

While the economic impact of effectively enforced formaldehyde emissions regulation is dramatic, the impact of ineffective enforcement is devastating. Problematic testing and ineffective enforcement will significantly tilt the playing field. Companies that comply voluntarily will be at a significant disadvantage to those who are able to "get around the system". In an industry where successful sales can hinge on pennies, much less dollars, this all-too-likely outcome would have devastating implications for the already struggling domestic furniture industry.

Conclusion:

The preceding factors - test error, the effect of surface finishes, industry size, mixed sources of supply, third party certification, etc. - combine to make the proposed CARB formaldehyde emissions regulation virtually unenforceable. While well intentioned, this regulation will fail to create the environmentally responsible, level playing field that CARB intended. Unfortunately, whether enforceable or not, the cost penalty for Phase II compliance creates an adverse industry outcome.

Sincerely,

Michael Zimmerman  
Senior R&D Chemist

Sauder Woodworking Co.  
mzimmerman@sauder.com

Attachment: [www.arb.ca.gov/lists/compwood07/33-carb\\_documents.zip](http://www.arb.ca.gov/lists/compwood07/33-carb_documents.zip)

Original File Name: CARB documents.zip

Date and Time Comment Was Submitted: 2007-04-23 06:31:24

No Duplicates.

**Comment 24 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Brock  
Last Name: Landry  
Email Address: brlandry@venable.com  
Affiliation: California Wood Industries Coalition

Subject: Composite Wood Products ATCM  
Comment:

Attached is the summary of positions of the California Wood Industries Coalition on the Composite Wood Industries Coalition. Also attached are the Supplementary Comments of the California Wood Industries Coalition.

Attachment: [www.arb.ca.gov/lists/compwood07/34-compwood07-23.zip](http://www.arb.ca.gov/lists/compwood07/34-compwood07-23.zip)

Original File Name: compwood07-23.zip

Date and Time Comment Was Submitted: 2007-04-23 10:26:31

No Duplicates.

**Comment 25 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Reginald

Last Name: Hubbard

Email Address: Non-web submitted comment

Affiliation: Darlington Veneer Company, Inc.

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/35-compwood07-24.pdf](http://www.arb.ca.gov/lists/compwood07/35-compwood07-24.pdf)

Original File Name: compwood07-24.pdf

Date and Time Comment Was Submitted: 2007-04-23 10:35:57

No Duplicates.

**Comment 26 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Steve  
Last Name: Stoler  
Email Address: SteveStoler@bc.com  
Affiliation:

Subject: Formaldehyde Emissions  
Comment:

Boise Cascades comments on the proposed ruling.

Attachment: [www.arb.ca.gov/lists/compwood07/36-arb\\_formaldehyde\\_letter.doc](http://www.arb.ca.gov/lists/compwood07/36-arb_formaldehyde_letter.doc)

Original File Name: ARB Formaldehyde Letter.doc

Date and Time Comment Was Submitted: 2007-04-23 17:48:39

No Duplicates.

**Comment 27 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Jim  
Last Name: Rush  
Email Address: jimrush@templeinland.com  
Affiliation:

Subject: ACTM comments for Temple-Inland  
Comment:

Attached are comments for Proposed ATCM for formaldehyde in  
Composite Wood Products

Attachment: [www.arb.ca.gov/lists/compwood07/37-carb\\_letter\\_r1.doc](http://www.arb.ca.gov/lists/compwood07/37-carb_letter_r1.doc)

Original File Name: CARb letter r1.doc

Date and Time Comment Was Submitted: 2007-04-24 07:58:30

No Duplicates.



**Comment 28 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: John P.  
Last Name: Maultsby  
Email Address: [jpmaultsby@fply.com](mailto:jpmaultsby@fply.com)  
Affiliation: Florida Plywoods, Inc.

Subject: Please consider my comments in the attached MSWord document  
Comment:

My company will be impacted by your decision. Please consider my  
comments in the attached MSWord document. Thank you.

JP Maultsby  
Florida Plywoods, Inc.  
Greenville, FL 32331  
850-948-2211

Attachment: [www.arb.ca.gov/lists/compwood07/38-carb\\_letter\\_-\\_florida\\_plywoods.doc](http://www.arb.ca.gov/lists/compwood07/38-carb_letter_-_florida_plywoods.doc)

Original File Name: CARB letter - Florida Plywoods.doc

Date and Time Comment Was Submitted: 2007-04-24 08:31:16

No Duplicates.

**Comment 29 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Pierre-Yves

Last Name: Couture

Email Address: pierre.yves.couture@cdm.ca

Affiliation:

Subject: Comments on CARB regulations/Formaldehyde emissions

Comment:

Please see attached letter

Attachment: [www.arb.ca.gov/lists/compwood07/39-letter\\_carb\\_apr\\_07.doc](http://www.arb.ca.gov/lists/compwood07/39-letter_carb_apr_07.doc)

Original File Name: Letter CARB Apr 07.doc

Date and Time Comment Was Submitted: 2007-04-24 08:48:23

No Duplicates.

**Comment 30 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Kelly  
Last Name: Hardy  
Email Address: khardy@childrennow.org  
Affiliation: Children Now

Subject: SUPPORT: Proposed Airborne Toxic Control Measure to Reduce Formaldehyde  
Comment:

Please see attached letter from Ted Lempert, President of Children  
Now, in support of the proposed formaldehyde Airborne Toxic  
Control Measure.

Attachment: [www.arb.ca.gov/lists/compwood07/40-carb\\_atcm\\_formaldehyde\\_letter\\_final.doc](http://www.arb.ca.gov/lists/compwood07/40-carb_atcm_formaldehyde_letter_final.doc)

Original File Name: CARB ATCM Formaldehyde Letter final.doc

Date and Time Comment Was Submitted: 2007-04-24 09:32:20

No Duplicates.

**Comment 31 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Will  
Last Name: Warberg  
Email Address: wwarberg@plumcreek.com  
Affiliation:

Subject: Public Comment from Plum Creek MDF  
Comment:

Please see Public Comments from Plum Creek MDF

Attachment: [www.arb.ca.gov/lists/compwood07/41-carb\\_public\\_comments\\_-\\_plum\\_creek\\_mdf.doc](http://www.arb.ca.gov/lists/compwood07/41-carb_public_comments_-_plum_creek_mdf.doc)

Original File Name: CARB Public Comments - Plum Creek MDF.doc

Date and Time Comment Was Submitted: 2007-04-24 09:35:28

No Duplicates.

**Comment 32 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Elliott  
Last Name: Savage  
Email Address: [elliott@seemac.com](mailto:elliott@seemac.com)  
Affiliation:

Subject: Comment letter on Composite Wood 2007  
Comment:

Please see file below.

Attachment: [www.arb.ca.gov/lists/compwood07/42-carb\\_letter.dot](http://www.arb.ca.gov/lists/compwood07/42-carb_letter.dot)

Original File Name: CARB Letter.dot

Date and Time Comment Was Submitted: 2007-04-24 09:50:30

No Duplicates.

**Comment 33 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Peter

Last Name: Wijnbergen

Email Address: peter.wijnbergen@norbord.com

Affiliation: Composite Panel Association

Subject: CARB Regulation

Comment:

Please see attached letter on the Proposed Air Toxic Control  
Measure for Formaldehyde in Composite Wood Products.

Attachment: [www.arb.ca.gov/lists/compwood07/43-carb\\_regulation\\_letter\\_\\_cpa\\_.pdf](http://www.arb.ca.gov/lists/compwood07/43-carb_regulation_letter__cpa_.pdf)

Original File Name: Carb regulation letter (CPA).pdf

Date and Time Comment Was Submitted: 2007-04-24 11:15:33

No Duplicates.

**Comment 34 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Darrell  
Last Name: Keeling  
Email Address: darrellk@rfpco.com  
Affiliation:

Subject: Roseburg Comments  
Comment:

See attached

Attachment: [www.arb.ca.gov/lists/compwood07/44-carb\\_comments\\_4.24.2007.doc](http://www.arb.ca.gov/lists/compwood07/44-carb_comments_4.24.2007.doc)

Original File Name: CARB comments 4.24.2007.doc

Date and Time Comment Was Submitted: 2007-04-24 11:39:58

No Duplicates.

**Comment 35 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Phill  
Last Name: Guay  
Email Address: pguay@cfpwood.com  
Affiliation: Columbia Forest Products

Subject: Supplemental Comments on Proposed ATCM for Reducing Formaldehyde  
Comment:

Response to CWIC's 4-23-07 submittal. See attached documents.

Attachment: [www.arb.ca.gov/lists/compwood07/45-comparison\\_of\\_purebond\\_to\\_uf\\_in\\_bond.zip](http://www.arb.ca.gov/lists/compwood07/45-comparison_of_purebond_to_uf_in_bond.zip)

Original File Name: Comparison Of Purebond To UF in Bond.zip

Date and Time Comment Was Submitted: 2007-04-24 12:35:35

No Duplicates.



**Comment 36 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Bill  
Last Name: Perdue  
Email Address: bperdue@ahfa.us  
Affiliation: AHFA

Subject: Comments on the ATCM for Composite Wood Products  
Comment:

File attached are the comments for the American Home Furnishings  
Alliance.

Attachment: [www.arb.ca.gov/lists/compwood07/46-ahfa\\_comments\\_carb\\_board\\_final\\_\\_42307.pdf](http://www.arb.ca.gov/lists/compwood07/46-ahfa_comments_carb_board_final__42307.pdf)

Original File Name: AHFA Comments\_CARB Board\_Final\_\_42307.pdf

Date and Time Comment Was Submitted: 2007-04-24 12:44:59

No Duplicates.

**Comment 37 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Antonio

Last Name: Sein

Email Address: antonio.sein@desc.com.mx

Affiliation:

Subject: CARB Comments

Comment:

Enclose our comments

regards

Attachment: [www.arb.ca.gov/lists/compwood07/47-carb\\_letter.pdf](http://www.arb.ca.gov/lists/compwood07/47-carb_letter.pdf)

Original File Name: CARB LETTER.pdf

Date and Time Comment Was Submitted: 2007-04-24 12:53:53

No Duplicates.

**Comment 38 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Suzanne

Last Name: Morgan

Email Address: [suzanne@iwpawood.org](mailto:suzanne@iwpawood.org)

Affiliation: International Wood Products Association

Subject: IWPA Comments on Proposed ATCM for Composite Wood Products

Comment:

Please see the attached comment letter.

Attachment: [www.arb.ca.gov/lists/compwood07/48-iwpa\\_atcm\\_comment\\_letter\\_04-07.doc](http://www.arb.ca.gov/lists/compwood07/48-iwpa_atcm_comment_letter_04-07.doc)

Original File Name: IWPA ATCM Comment Letter 04-07.doc

Date and Time Comment Was Submitted: 2007-04-24 13:21:19

No Duplicates.

**Comment 39 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Gregory  
Last Name: Maher  
Email Address: gmaher@greatlakesmdf.com  
Affiliation: CPA

Subject: CARB regulation comments  
Comment:

Dear Dr. Sawyer,

Attached are our comments regarding the proposed CARB regulations. We sincerely hope that you will strongly consider and adopt the proposals as indicated by the CWIC.

Thank you for your consideration and your anticipated help for the coalition.

Very truly yours,

Gregory P. Maher  
President & General Manager  
Great Lakes MDF, LLC  
300 Commerce Drive  
Lackawanna, NY 14218

Attachment: [www.arb.ca.gov/lists/compwood07/49-great\\_lakes\\_mdf\\_carb\\_comments.pdf](http://www.arb.ca.gov/lists/compwood07/49-great_lakes_mdf_carb_comments.pdf)

Original File Name: Great Lakes MDF CARB comments.pdf

Date and Time Comment Was Submitted: 2007-04-24 13:23:13

No Duplicates.

**Comment 40 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Smith  
Last Name: Michel  
Email Address: michel.smith@uniboard.com  
Affiliation:

Subject: Carb Comments  
Comment:

Uniboard

Attachment: [www.arb.ca.gov/lists/compwood07/50-template\\_letter\\_-\\_carb\\_comments11.doc](http://www.arb.ca.gov/lists/compwood07/50-template_letter_-_carb_comments11.doc)

Original File Name: Template Letter - CARB Comments11.doc

Date and Time Comment Was Submitted: 2007-04-24 13:40:43

No Duplicates.

**Comment 41 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: John  
Last Name: Chaffin  
Email Address: johnc@chaffin-law.com  
Affiliation:

Subject: Comments on Formaldehyde regulations for plywood  
Comment:

THE LAW OFFICES  
OF  
JOHN E. CHAFFIN AND ASSOCIATES  
449 SOUTH ESCONDIDO BLVD.  
ESCONDIDO, CA 92025  
(760)233-3887

April 24, 2007

Dr. Robert Sawyer, Chairman  
California Air Resources Board  
1001 "I" Street  
P. O. Box 2815  
Sacramento, CA 95812

Re: Airborne Toxic Control Measure to Reduce Formaldehyde  
Emissions from Composite Wood Products; Release Date: March 9,  
2007

Dear Dr. Sawyer,

I appreciate the opportunity to offer comments with regard to the  
March 9, 2007, draft of the Airborne Toxic Control Measure to  
Reduce Formaldehyde Emissions from Composite Wood Products  
(ATCM).

I am a resident of California, represent importers of hardwood  
plywood, and an associate member of the International Wood  
Products Association (IWPA). I have been involved in the business  
of importing hardwood plywood for 17 years. I have reviewed the  
subject regulations, staff report and appendices, and have  
discussed this matter with several clients in the business. I  
respectfully request the board consider the comments provided  
herein and delay any action on adopting the regulation at this  
time.

1. The staff report does not adequately address the impact of this  
regulation on importers and overseas mill suppliers. Based on data  
from the U.S. Department of Agriculture, foreign importers account  
for 60% of the hardwood plywood (HWPW) consumed in the United  
States each year based on 2002. The staff report of 225 pages  
discusses the impact on importers for less than one page at page  
210.

2. IWPA reached out in a comprehensive manner for feedback from

overseas producers in many countries. The resounding message heard was that overseas mills are not prepared to meet the regulations Phase 1 or Phase 2 and will need substantial time to develop the infrastructure to do so. The majority of the mills confirmed the formaldehyde levels required could be met but the third party certification would be a major impediment to meeting all of the regulations. More time is needed than set out in the regulations to comply.

3. There are inadequate third party certifiers available for overseas mills. In most instances, mills have their own laboratories to confirm glue formulations or will rely on the laboratory facilities of the glue supplier. Further, large chamber testing facilities are extremely rare in other plywood producing countries such as Malaysia and Indonesia.

4. The chain of custody documentation requirements is unworkable for the imported plywood industry. Imported plywood changes hands several times in the supply chain. Further, the identity of an importer's supplier is considered proprietary information. A significant percentage of the imported plywood is sold to wholesalers and distributors who consider the identity of their importer to be proprietary.

The Board should postpone action on these regulations until there has been further adequate study and reporting of the impacts on importers and overseas suppliers, the time provided for implementation by overseas producers has been increased to allow for the development of third party certifiers or this requirement eliminated for overseas producers, and changes made to the chain of custody documentation to take into the unique business model involved in importing HWPW.

If the Board proceeds to adopt these regulations as proposed, there will be significant, adverse, unintended consequences. These regulations represent an unauthorized, non-tariff trade barrier with regard to foreign suppliers and importers.

The regulations purport to reduce formaldehyde emissions by about 500 tons per year for the entire state of California. Based on the data in the staff report, this is a reduction of about 2.5%. However, the inaccuracy of the measurements of the level of formaldehyde in ambient air is much greater than + or - 2.5%. In other words, this regulation will result in adverse impacts on business and consumers and the possible benefit will not be measureable.

With all due respect, I urge the Board to delay action until the full and real impact of this regulation can be determined.

I would welcome the opportunity to discuss this matter and can be reached at (760) 233-3887 or via e-mail at johnc@chaffin-law.com.

Sincerely,

John E. Chaffin  
Attorney at Law

P. S. I will be at the hearing and would like to be placed on the list of speakers.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-24 14:00:11

No Duplicates.



**Comment 42 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Stanley

Last Name: Gustafson

Email Address: Non-web submitted comment

Affiliation: WOODWORK INSTITUTE

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/52-compwood07-41.pdf](http://www.arb.ca.gov/lists/compwood07/52-compwood07-41.pdf)

Original File Name: compwood07-41.pdf

Date and Time Comment Was Submitted: 2007-04-24 14:48:56

No Duplicates.

**Comment 43 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Robert  
Last Name: Raymer  
Email Address: rraymer@cbia.org  
Affiliation: Ca. Building Industry Association

Subject: Proposed ATCM for Formaldehyde in Composite Wood Products  
Comment:

The California Building Industry Association (CBIA) is a statewide trade association representing over 7,500 member-companies involved in residential and light-commercial construction.

Please be advised that CBIA supports the comments contained in the seven-page letter recently submitted to the Air Resources Board by the California Wood Industries Coalition. CBIA is especially concerned with the enforcement aspects related to the proposed regulation. It seems highly likely that the referenced proposal will, for at least the short-term, create an unlevel playing field for those manufacturers located within California with those located outside our state borders (especially those located in other countries).

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-24 15:29:48

No Duplicates.

**Comment 44 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tom

Last Name: Julia

Email Address: tjulia@cpamail.org

Affiliation: Composite Panel Association

Subject: Composite Wood ATCM

Comment:

See Attachment

Attachment: [www.arb.ca.gov/lists/compwood07/54-cpa\\_carb\\_comments.pdf](http://www.arb.ca.gov/lists/compwood07/54-cpa_carb_comments.pdf)

Original File Name: CPA CARB Comments.pdf

Date and Time Comment Was Submitted: 2007-04-24 15:31:00

No Duplicates.

**Comment 45 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Wade  
Last Name: Gregory  
Email Address: wgregory@sierrapine.com  
Affiliation: SierraPine

Subject: Comments on Proposed ATCM  
Comment:

Please see attached file for comments on the proposed ATCM from  
Wade Gregory, SierraPine President.

Attachment: [www.arb.ca.gov/lists/compwood07/55-sierrapine\\_comments\\_042407.pdf](http://www.arb.ca.gov/lists/compwood07/55-sierrapine_comments_042407.pdf)

Original File Name: SierraPine Comments 042407.pdf

Date and Time Comment Was Submitted: 2007-04-24 15:34:30

No Duplicates.

**Comment 46 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Joseph H.  
Last Name: Gonyea, III  
Email Address: jgonyea@timberproducts.com  
Affiliation:

Subject: Comments on Proposed Air Toxic Control Measure for Formaldehyde in Composite  
Wood Products

Comment:

Please see attached letter.

Attachment: [www.arb.ca.gov/lists/compwood07/58-timber\\_products\\_company.zip](http://www.arb.ca.gov/lists/compwood07/58-timber_products_company.zip)

Original File Name: Timber Products Company.zip

Date and Time Comment Was Submitted: 2007-04-24 16:18:19

No Duplicates.

**Comment 47 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Bruce  
Last Name: Steenson  
Email Address: bruce@woodpanels.org.au  
Affiliation: AWPA & EWPA

Subject: AWPA & EWPA comments on ATCM for Formaldehyde  
Comment:

Please find attached a copy of comments on the proposed ATCM to reduce formaldehyde emissions from composite wood panels from the Australian Wood Panels Association and the Engineered Wood Products Association of Australasia.

Attachment: [www.arb.ca.gov/lists/compwood07/59-awpa-ewpaa\\_carb\\_submission.pdf](http://www.arb.ca.gov/lists/compwood07/59-awpa-ewpaa_carb_submission.pdf)

Original File Name: AWPA-EWPA Carb Submission.pdf

Date and Time Comment Was Submitted: 2007-04-24 18:13:34

No Duplicates.

**Comment 48 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Mel  
Last Name: Zeldin  
Email Address: mel@capcoa.org  
Affiliation: CAPCOA

Subject: CAPCOA Enforcement Manager's Committee Comments on Proposed Composite  
Wood ATCM

Comment:

CAPCOA Enforcement Manager's Committee Comments on Proposed  
Composite Wood ATCM

Attachment: [www.arb.ca.gov/lists/compwood07/60-atcm.pdf](http://www.arb.ca.gov/lists/compwood07/60-atcm.pdf)

Original File Name: ATCM.pdf

Date and Time Comment Was Submitted: 2007-04-25 08:54:37

No Duplicates.

## **Comment 49 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Hal

Last Name: Levin

Email Address: hal.levin@buildingecology.com

Affiliation:

Subject: Comp wood regulation

Comment:

Further comments on proposed regulation;

1. ASTM Standard E1333 is inappropriate for the regulation. The sensitivity of the test is intended to be appropriate to determine airborne concentrations in the range of 0.3 ppm. The proposed regulations would limit concentrations to values as low as 0.05 ppm. A more sensitive test is required for compliance. I suggest eliminating the chromotropic acid analytical method and using only DNPH for the analysis described in the standard. It must be recognized that E1333 was written for compliance with the HUD standard which limits concentrations to 0.3 ppm. DNPH is included as an alternate in the standard, but it should be the required method. There is an ASTM standard for the DNPH method.

2. I do not believe that the final regulatory targets in years 2011 and 2012 of 0.11 and 0.13 for MDF and thin MDF respectively are sufficiently protective of the population. The installation of products with these emissions in residential bedrooms of energy efficient homes - tightly sealed against air leakage and without any specific outdoor air ventilation system -- where ventilation rates may be significantly lower than the 0.5 air changes per hour in the test chamber means occupants will be exposed to concentrations well in excess of 0.1 ppm. Given the abundant evidence of the toxicity and the listing of formaldehyde as a carcinogen, I believe the limit should be based on a target concentration no higher than that established by OEHHA for workplace exposure which is only intended to protect workers during a 40-hour work week. Far more time could be spent in a residence thus requiring a far lower target concentration or concentration limit.

3. I recommend a concentration target limit that is based on an assumption of 0.25 air changes per hour and an emission rate that does not result in concentrations exceeding 0.027 ppm formaldehyde under realistic modeling scenarios. Assume MDF will be the core of a composite flooring material with a loading ratio of  $0.42 \text{ m}^2/\text{m}^3$  and cabinetry or closet doors with a loading ratio of  $0.25 \text{ m}^2/\text{m}^3$ . An emission rate far below the proposed limits will be required to provide protection in energy efficient residential environments with typical ventilation rates below 0.5 air changes per hour. Even at 0.5 ach, concentrations of 100 ppb or above are simply unacceptable given the health effects data on formaldehyde exposure.

Hal Levin

Building Ecology Research Group



2548 Empire Grade, Santa Cruz, CA 95060  
1.831.425.3946

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 09:11:46

No Duplicates.

**Comment 50 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Russell  
Last Name: Leverenz  
Email Address: russleverenz@hotmail.com  
Affiliation:

Subject: Formaldehyde Emissions Reduction  
Comment:

Health is the preiminent issue. Does the consumer pay more for the automobile because of the seat belt and airbag? Yes. And auto user is safer for it. Is the health and welfare a space user improved because formaldehyde emissions is avoided? Yes. Is that health status worth an extra dollar in cost to achieve this result? It is for me. I expect that over time, the cost of formaldehyde free material will decrease as economies of scale and new technologies are developed, further benefiting the consumer. Stay with the highest and best standard. It ultimately is the best result for consumers, manufacturers and materials producers.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 09:58:35

No Duplicates.

## **Comment 51 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Scott  
Last Name: Watson  
Email Address: sowatson@earthlink.net  
Affiliation: IPMG

Subject: Don't Let Perfect be the Enemy of Good...

Comment:

Firstly, so that everyone understands how I am a stakeholder in this issue:

I am a resident of the State of California, my Corporation is a California corporation, and I am a taxpayer. My company is sales representatives for importers of hardwood plywood. However, it should be noted that our sales DO NOT take place in California but I feel so strongly about this issue that I wanted to address the board.

Please understand that I think that the idea of reducing formaldehyde emissions from wood panels is a noble pursuit that I am totally in support of - but these regulations remind me of the adage "Don't let perfect be the enemy of good"

It is my opinion from my participation in the workshops that this regulation is overreaching, very costly, and I have the opinion that it is being ramrodded through by CARB staff

There is currently only one standard with regard to formaldehyde emissions in the United States and that is the HUD Standard that has been used in mobile home and RV construction for years. There are limits set in that Standard that have already addressed this issue and current technologies are able to manufacture product to these levels. The HUD limits set in that standard are twice what the CARB regulation is requiring. Because this regulation applies to every manufacturer and importer and user throughout California I would like to suggest that to truly accomplish this task, that CARB will need to create a new enforcement agency called the CPP - The California Panel Police - and I would love to apply to be a member of the force because it will be a total bureaucracy that will make very little difference but will offer good wages and benefits that the state taxpayers will have to pay for.

It is my opinion that the cost models that staff have offered are

seriously flawed. There are so many areas where I believe these models to be flawed that it I could spend my entire time refuting the models alone. Therefore, I will address only three points.

These products are commodities. Their value is determined by only two things - supply and demand. If and when California implements this regulation, you will have a single manufacturer presently that could supply everyone in the state of California. As demand increases for the product so does the price. Not only in California, but throughout the country as well, as more of the currently available production is consumed into California. What is behind this effort is perhaps a sense of goodwill to reduce formaldehyde emissions, but in my opinion it is really about Profit. If we can regulate folks to NEED our product it becomes more valuable to the company making it and they sell it for more.

Secondly, the cost to administer this program as well as the reduced production cycles and third-party administration costs are going to be enormous. Those factors have not been addressed in my opinion and added to the cost models that CARB staff is providing. The product or consumer ultimately will have to bear these additional costs and to not address them as a real cost component just seems silly.

Lastly, the cost of this program I had seen in the staff reports is estimated to swell from 154 million dollars per year to over 1.5 Billion if I recall correctly. I am concerned that this becomes an additional cost to the taxpayers of California an "unseen tax" if you will. An expenditure of this size I would hope would require greater oversight by the state budget process.

And this leads me to my final point...

My allegation of a sense of Ramrodding

I do truly appreciate the candor and openness of the CARB staff that I have seen participate in this process. What I do not understand is the pervasive attitude that this is the regulation that is going to go into effect...PERIOD. In my short period of participation in this issue it seems that staff has an answer for every question that comes up to explain away that particular issue. However, the fundamental assumptions are flawed and the assumptions that are made on top of those flawed assumptions are further flawed and so on. To put it in other words, I am flabbergasted at the explanations that CARB staff has offered as fact. These are not facts - these are opinions based upon assumptions.

What I also fail to understand is that the California ports are a gateway to the Western part of North America. Under this proposal we will still allow the materials to come through the ports of California and be stored there, as long as the material is to be sold out of state. Do you see the hypocrisy in this? We are willing to let this "dangerous material" into the ports but it can't be sold in the state of California. Can you imagine the number of lawsuits that California might eventually face from the dock workers unions at the port? It is as if because they are the through-way of the product its okay for them to be around the chemical but its not okay to keep it here. I just don't understand that. It is as if California is willing to allow the handling of a supposedly dangerous substance through the port because of the revenue and jobs it produces, but it has to leave the state to be sold. If the objective is to reduce the amount of formaldehyde through California, then why not ban it from arriving in the first place? Banning the importation to the port of a dangerous substance altogether would make a lot more sense to me.

## Conclusion

I appreciate the amount of work that staff has put into this effort. However, I ask each and everyone of you on the board to table this regulation until such time that we can further debate the science, costs, and merits of this proposal. While it is a noble pursuit for us to want to reduce a potentially harmful chemical, I would urge you to adopt the HUD regulation that currently exists until such time that we can further debate the issue and come to a more comprehensive agreement.

I believe it fair to say that the Europeans that have the most restrictive emissions limitation in the world today. I for one as a taxpayer in the state of California do not want to even begin to think about setting the most restrictive standard in the world today. Are we going to be admired for it? I don't think so. I believe this will be seen as another in a long line of items that the rest of the country will see with contempt as a move by the "California Wackos".

I honestly believe that CARB could do more good for the state by getting 10 persons to stop smoking than they will with a 1 ½ Billion dollar program, that is overreaching, unenforceable and seriously flawed.

Please, I urge you, be practical, don't let perfect be the enemy of good - adopt the current HUD standards and let's get back to work implementing a known standard as well as discussing this issue and science further so that in the future we can make an even better decision.

I thank you for your attention.

Scott Watson

IPMG, Inc.

PO Box 2738

Oroville, CA 95965

530-589-4816

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 10:46:18

No Duplicates.

**Comment 52 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 45 Day.**

First Name: Tom

Last Name: Lent

Email Address: [tlent@healthybuilding.net](mailto:tlent@healthybuilding.net)

Affiliation: Healthy Building Network

Subject: Formaldehyde Carcinogen Science

Comment:

The attached letter reviews arguments made against the scientific basis for the regulation and indicates that a consensus exists in the peer-reviewed science that the risks from formaldehyde substantiates the basis for the CARB action based on the OEHHA analysis.

Attachment: [www.arb.ca.gov/lists/compwood07/64-carb\\_science\\_letter\\_final\\_11-21-06-tl-agh.pdf](http://www.arb.ca.gov/lists/compwood07/64-carb_science_letter_final_11-21-06-tl-agh.pdf)

Original File Name: CARB science letter FINAL 11-21-06-TL-AGH.pdf

Date and Time Comment Was Submitted: 2007-04-25 11:15:00

No Duplicates.

**Comment 53 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Joan

Last Name: Cassman

Email Address: [jcassman@hansonbridgett.com](mailto:jcassman@hansonbridgett.com)

Affiliation:

Subject: Proposed New CARB Regulations on Formaldehyde

Comment:

Please see attachment.

Attachment: [www.arb.ca.gov/lists/compwood07/65-carb-atcm.pdf](http://www.arb.ca.gov/lists/compwood07/65-carb-atcm.pdf)

Original File Name: CARB-ATCM.pdf

Date and Time Comment Was Submitted: 2007-04-25 11:46:54

No Duplicates.



**Comment 54 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Jams

Last Name: Knox

Email Address: Non-web submitted comment

Affiliation: American Cancer Society

Subject: Proposed ATCM to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/66-compwood07-53.pdf](http://www.arb.ca.gov/lists/compwood07/66-compwood07-53.pdf)

Original File Name: compwood07-53.pdf

Date and Time Comment Was Submitted: 2007-04-25 11:47:59

No Duplicates.

**Comment 55 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Jill  
Last Name: Theg  
Email Address: mjmt1@juno.com  
Affiliation:

Subject: Reducing Formaldehyde Emissions  
Comment:

I care very deeply about reducing formaldehyde emissions and urge you take whatever actions you can to reduce formaldehyde emissions to background levels. This is a health issue of great importance.

Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 11:55:17

No Duplicates.

**Comment 56 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Tim

Last Name: Carmichael

Email Address: [tim@coalitionforcleanair.org](mailto:tim@coalitionforcleanair.org)

Affiliation: Coalition for Clean Air

Subject: Formaldehyde-Free Wood Products Regulation

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/68-compwood07-56.pdf](http://www.arb.ca.gov/lists/compwood07/68-compwood07-56.pdf)

Original File Name: compwood07-56.pdf

Date and Time Comment Was Submitted: 2007-04-25 12:36:05

No Duplicates.

**Comment 57 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: Jonathan  
Last Name: Young  
Email Address: jonyoung@sanjuan.edu  
Affiliation: concerned citizen

Subject: ATCM re. Formaldehyde  
Comment:

Dear Air Resources Board,

Please support the measure to reduce formaldehyde emissions.

Sincerely,  
Jonathan Young  
4017 Hancock Dr.  
Sac. CA 95821

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 12:53:08

No Duplicates.

**Comment 58 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 45 Day.**

First Name: David  
Last Name: Blicker  
Email Address: kenablick@yahoo.com  
Affiliation:

Subject: Formaldehyde emissions  
Comment:

Do the right thing. Adopt the regulations to establish new low emitting standards. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-04-25 12:56:20

No Duplicates.

**Comment 1 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Carole

Last Name: Taylor

Email Address: Non-web submitted comment

Affiliation: Veneer Products Inc.

Subject: Proposed ATCM to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/71-compwood07-ws-1.pdf](http://www.arb.ca.gov/lists/compwood07/71-compwood07-ws-1.pdf)

Original File Name: compwood07-ws-1.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:02:40

No Duplicates.

**Comment 2 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Joan

Last Name: Cassman

Email Address: [jcassman@hansonbridgett.com](mailto:jcassman@hansonbridgett.com)

Affiliation: Hanson Bridgett LLP

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/72-compwood07-ws-2.pdf](http://www.arb.ca.gov/lists/compwood07/72-compwood07-ws-2.pdf)

Original File Name: compwood07-ws-2.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:08:47

No Duplicates.

**Comment 3 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Harry

Last Name: Demorest

Email Address: Non-web submitted comment

Affiliation: Columbia Forest Products

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/73-compwood07-ws-3.pdf](http://www.arb.ca.gov/lists/compwood07/73-compwood07-ws-3.pdf)

Original File Name: compwood07-ws-3.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:35:13

No Duplicates.



**Comment 4 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Elizabeth

Last Name: Whalen

Email Address: ewhalen@cfpwood.com

Affiliation: Columbia Forest Products

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/74-compwood07-ws-4.pdf](http://www.arb.ca.gov/lists/compwood07/74-compwood07-ws-4.pdf)

Original File Name: compwood07-ws-4.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:36:56

No Duplicates.

**Comment 5 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Kaichang

Last Name: Li

Email Address: kaichang.li@oregonstate.edu

Affiliation: Assoc. Professor at Oregon State Univ.

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/75-compwood07-ws-5.pdf](http://www.arb.ca.gov/lists/compwood07/75-compwood07-ws-5.pdf)

Original File Name: compwood07-ws-5.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:39:12

No Duplicates.

**Comment 6 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Phill

Last Name: Guay

Email Address: pguay@cfpwood.com

Affiliation: Columbia Forest Products

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/76-compwood07-ws-6.pdf](http://www.arb.ca.gov/lists/compwood07/76-compwood07-ws-6.pdf)

Original File Name: compwood07-ws-6.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:41:13

No Duplicates.

**Comment 7 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Richard  
Last Name: Royce  
Email Address: rroyce@herc.com  
Affiliation: Hercules

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/77-compwood07-ws-7.pdf](http://www.arb.ca.gov/lists/compwood07/77-compwood07-ws-7.pdf)

Original File Name: compwood07-ws-7.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:42:54

No Duplicates.

**Comment 8 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: David  
Last Name: Mullen  
Email Address: dmullen@herc.com  
Affiliation: Hercules

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/78-compwood07-ws-8.pdf](http://www.arb.ca.gov/lists/compwood07/78-compwood07-ws-8.pdf)

Original File Name: compwood07-ws-8.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:44:12

No Duplicates.

**Comment 9 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Gene  
Last Name: Livingston  
Email Address: livingstong@gtlaw.com  
Affiliation: CWIC

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/79-compwood07-ws-9.pdf](http://www.arb.ca.gov/lists/compwood07/79-compwood07-ws-9.pdf)

Original File Name: compwood07-ws-9.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:46:33

No Duplicates.

**Comment 10 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Dr. Lee

Last Name: Shull

Email Address: Non-web submitted comment

Affiliation: Comp. Panel Assoc. & CA Wood Industries

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/80-compwood07-ws-10.pdf](http://www.arb.ca.gov/lists/compwood07/80-compwood07-ws-10.pdf)

Original File Name: compwood07-ws-10.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:50:46

No Duplicates.

**Comment 11 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: F. Jay

Last Name: Murray, Ph.D., DABT

Email Address: Non-web submitted comment

Affiliation: Murray & Associates

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/81-compwoo07-ws-11.pdf](http://www.arb.ca.gov/lists/compwood07/81-compwoo07-ws-11.pdf)

Original File Name: compwoo07-ws-11.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:52:28

No Duplicates.



**Comment 12 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Ed

Last Name: Woods

Email Address: [ewoods@cfpwood.com](mailto:ewoods@cfpwood.com)

Affiliation: Columbia Forest Products

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/82-compwood07-ws-12.pdf](http://www.arb.ca.gov/lists/compwood07/82-compwood07-ws-12.pdf)

Original File Name: compwood07-ws-12.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:55:00

No Duplicates.

**Comment 13 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Jeff

Last Name: Hunt

Email Address: Non-web submitted comment

Affiliation: Plywood and Lumber Sales

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/83-compwood07-ws-13.pdf](http://www.arb.ca.gov/lists/compwood07/83-compwood07-ws-13.pdf)

Original File Name: compwood07-ws-13.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:56:13

No Duplicates.

**Comment 14 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Mike  
Last Name: Robson  
Email Address: mike@edelsteingilbert.com  
Affiliation: AWFS

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/84-compwood07-ws-14.pdf](http://www.arb.ca.gov/lists/compwood07/84-compwood07-ws-14.pdf)

Original File Name: compwood07-ws-14.pdf

Date and Time Comment Was Submitted: 2007-04-27 10:58:25

No Duplicates.

**Comment 15 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Gene

Last Name: Chappell

Email Address: Non-web submitted comment

Affiliation: Columbia Forest Products

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/85-compwood07-ws-15.pdf](http://www.arb.ca.gov/lists/compwood07/85-compwood07-ws-15.pdf)

Original File Name: compwood07-ws-15.pdf

Date and Time Comment Was Submitted: 2007-04-27 11:00:24

No Duplicates.

**Comment 16 for Formaldehyde Emissions from Composite Wood Products  
(compwood07). (At Hearing)**

First Name: Doug

Last Name: Bradley

Email Address: Non-web submitted comment

Affiliation: General Veneer Manufacturing Co.

Subject: Proposed Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/compwood07/86-compwood07-ws-16.pdf](http://www.arb.ca.gov/lists/compwood07/86-compwood07-ws-16.pdf)

Original File Name: compwood07-ws-16.pdf

Date and Time Comment Was Submitted: 2007-04-27 11:01:31

No Duplicates.

## **Comment 1 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Charles

Last Name: Davis

Email Address: regalair@cox.net

Affiliation:

Subject: Comments COMPWOOD07

Comment:

1.The process of testing and certifying CWP from the manufacturer to the end user and the roles played by 3rd Party Certifiers, independent test labs, quality control inspectors, ARB, etc. is a bit complicated. I think a graphic or two showing the various steps that have to be followed by manufactures, fabricators, distributors, and retailers would help everyone understand how all the pieces fit together.

2.Has there been any thought to the importance of internet sales of finished products made from CWP that do not meet emission standards? We just finished testing a residential home that had a very high formaldehyde concentration and found that in a 140ft<sup>2</sup> office there was over 600 ft<sup>2</sup> (surface area) of new imported furniture that had been purchased via the internet. The individual had no knowledge of emission problems with furniture made from CWP and ordered it off the internet because it was a good deal and convenient.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-03 11:28:21

No Duplicates.

**Comment 2 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Linda

Last Name: Pardy

Email Address: LPardy@cox.net

Affiliation:

Subject: Appreciate Efforts to Reduce Formaldehyde Emissions

Comment:

I support efforts to reduce formaldehyde emissions from composite wood products because the fumes from these products are especially serious matter for me. If I spend time in enclosed buildings with formaldehyde emissions, or breath formaldehyde fumes, I experience headaches. Once I've become sick from formaldehyde, then other chemicals start to cause me problems too.

Formaldehyde might be a good bonding agent, but it sure is bad news to anyone who's sensitive to it. I appreciate these efforts to make a healthier environment for everyone. Thank you so much.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-05 10:12:45

No Duplicates.

## **Comment 3 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Michael

Last Name: Anderson

Email Address: michael.anderson@kodak.com

Affiliation: Eastman Kodak Company

Subject: CWP Rulemaking - Request for exemption for pallets, crates and other packaging materials

Comment:

Eastman Kodak Company appreciates the opportunity to provide comment(s) on the aforementioned CARB proposed rulemaking. We respectfully request that the Board give careful consideration towards the applicability of packaging materials and grant an exemption for pallets, crates and other shipping/packaging media.

Engineered wood products (i.e., plywood) have become more readily available in the shipping industry today to provide the necessary protection for the product during shipment, hold up to the physical demands during transport, and to avoid treatment costs associated with international phytosanitary measures (ISPM-15). While crate and dunnage materials have historically been constructed using composite wood products, pallets have recently migrated towards the use of these materials.

We are concerned that the recent rulemaking and impending regulation for composite wood products in California did not adequately address the concerns and real world implementation aspects of the shipping industry and specifically on shipping/packaging materials. For starters, pallets, crates and packaging products do not pose the same risks or exposure pathways as fabricated products. Pallets are transient materials that are often stored in warehouses or transported in vehicles that pose little or no risk of exposure to humans. Crating and dunnage, likewise pose little harm by being disposable/recyclable by the end user. Unlike most fabricated goods, pallets, crates and packaging have very different use and applications which result in very different exposure scenarios.

Manufacturers have little or no control over third-party warehouses or distribution facilities activities that result in repacking functions (ie., re-palletize). This is a very common practice in the retail market channel. It would be unfair to any OEM or producer in such situations. In order to avoid the possibility of a noncompliant, reusable pallet or crate would be shipped into California, we may be forced to discard the existing inventory and replace with new packaging. This will result in a premature disposition of packaging materials that had many more years of useful life. In addition to generating waste it would increase shipping costs, as new crates and pallets would have to be purchased to replace the existing inventory.



We respectfully request that you and members of the composite wood product implementation team give careful consideration to packaging materials and pallets. We believe that the most logical approach is to exempt these materials from the ARB requirements.

Thank you - Mike

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-12 12:39:46

No Duplicates.

**Comment 4 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Krister  
Last Name: Hard-af-Segerstad  
Email Address: krister@memo.IKEA.com  
Affiliation: IKEA NA Services, LLC

Subject: Comments from IKEA of Sweden Re: ACTM on FA Reduction  
Comment:

Gentlemen,

Please see attached file containing comments from IKEA of Sweden regarding the current revision of the proposed ATCM to Reduce Formaldehyde Emissions from Composite Wood Products.

Please let me know if you need any comments or assistance with the information.

Best regards,

Krister Hård af Segerstad

Manager, Product Safety & Compliance  
IKEA NA Services, LLC  
420 Alan Wood Road  
Conshohocken, PA 19428

Phone: +1 (610) 834-0180 x/5314  
Fax: +1 (610) 834-0872

Attachment: [www.arb.ca.gov/lists/compwood07/105-comments\\_from\\_ios\\_2008-02-13\\_rev.doc](http://www.arb.ca.gov/lists/compwood07/105-comments_from_ios_2008-02-13_rev.doc)

Original File Name: Comments from IoS 2008-02-13 Rev.doc

Date and Time Comment Was Submitted: 2008-02-13 12:10:08

No Duplicates.

## **Comment 5 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Eddie

Last Name: Pitts

Email Address: eddiepitts@bernhardt.com

Affiliation:

Subject: draft of formaldehyde ruling ATCM

Comment:

I believe that human life is a sacred gift and that every precaution should be made to keep from negatively impacting the quality of this gift. However, we also have the individual right to balance our quality of life against certain risks. Since we all think differently it is easy for a group to perceive that a risk is actually greater than it is or even to see a series of risks and measure them out of proportion based on a limited view of all of the factors associated. I think that is what has occurred with the formaldehyde ruling in the ATCM measure.

The way the ruling is drafted it unfairly affects importers of some product. If you look at the board manufacturers who participated in the draft you will see that they are the largest suppliers of board on the North, Central, and South American continents. Since their operation is so large you have helped them further monopolize the industry.

The furniture importers in the United States who deal with Fabricators in the Far East find themselves buying product from several hundred different sources, who buy board from an exponential amount of board manufacturers. These manufacturers are set up to adhere to US, European, Japanese and other board standards. These standards are similar in nature to the phase 1 ruling but have a very different test protocol. The large chamber test requirement without sufficient lab facilities in these areas will create a manufactured demand and bottleneck for procurement.

The cost work that has been provided by the ARB is based on the data from the "on board" board manufacturers and only reflects cost based on new resin technologies in their facilities. This work is understated beyond their walls. It does not take into consideration the body of work in the fabricators, the importer and the retailer to accommodate the data for chain of custody. It also does not reflect the demand generated by the procurement bottleneck in the Far East. There will be some board manufacturers who decide that in the global community, defining a process to accommodate one state in another country is not worth the extra effort. When these factors other than resin cost come into consideration, the real cost will be substantially greater.

There are several companies who maintain a large inventory in Fabricator warehouses in the Far East. There is no good mechanism to allow these inventories to contain specialty products specific to California. So you are forcing either a cost increase to everyone else in the world or potentially causing companies to consider stopping sales within California.

Cost is not the only issue with the program. It appears that in the rush to get the ruling approved, passed and enacted that there

are some parts that are not complete.

The chain of custody as stated is going to overwhelm fabricators and retailers alike. In every discussion on this subject that I have participated in, there has been no retailer present. During a conversation with the AHFA and several member fabricator, importers in January of 2008 the chain of custody was defined like this. The manufacturer sends board lot test info to fabricator. The fabricator sends board test info by shipment to retailer or importer, adds verbiage to BOL or invoice, and labels finished goods. A problem with this flow is the volume of data when the shipment is a container of product that is consolidated with product from various fabricators who have dealt with multiple manufacturers.

It would be simpler to support a chain of custody that has added verbiage to the BOL or invoice identifying product compliance and to let this and the label on the finished goods suffice for the retailer. In the event there was a need to follow the chain of custody back to the board manufacturer you would look for the label, get the fabricator or importer name, SKU and production date, and the retailer would follow up with the importer or manufacturer. This would streamline the outbound data.

The enforcement of the program is always going to be in question.

You have stated that the large chamber testing is going to be the gold standard. However the enforcement arm is going to raise red flags by using a FLEC device. As of today there is no direct correlation between the readings of the FLEC cell and the large chamber. You have then said that you will use a deconstructive test protocol for a final judgment. Even though this is closer to the original test of the raw board there is still the chance that the original conditioning period of the board and the secondary test will give inaccurate results. This will also expose more formaldehyde fumes to the atmosphere in a shorter period of time than would have ever off-gassed through the encapsulation of the finished goods, so the number you get for the test will not reflect "real life" of the finished goods.

I think that the ARB collectively has their hearts in the right place; however they could serve humanities interest better by not imposing this ruling as it is stated within the defined time frame. Or even better, by not going alone and to join with the other states and international agencies in defining one acceptable standard that will not create unfair monopolies and actually do the good that was intended.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-14 09:03:59

No Duplicates.

## **Comment 6 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Chris  
Last Name: Lantman  
Email Address: chris.lantman@sri.com  
Affiliation: SRI International

Subject: Comments from SRI International  
Comment:

On behalf of SRI International, we are pleased to enter the discussion of the Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products.

As a not-for-profit research institute, we are developing alternative resins and glues to help the composite wood product industry meet these new standards. One example is our new polyketone wood adhesive which is cost-effective, nontoxic and formaldehyde-free.

To ensure that our development is aligned with the ACTM and industry needs, we would like to discuss implementation. Please contact me for further information.

Best regards,  
Dr. Chris Lantman  
Director, Commercial & International Business Development  
SRI International  
333 Ravenswood Avenue; Menlo Park CA 94025  
tel: 650-859-5725

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-14 12:24:11

No Duplicates.

## **Comment 7 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Bill

Last Name: Perdue

Email Address: BillPerdue@ahfa.us

Affiliation:

Subject: 15-Day Commwnt on Composite Wood ATCM

Comment:

Jim and Lynn ... just wanted to let you know that the AHFA supports the "Proposed Modifications" as detailed in the "15 Day" version of the ATCM dated 01/31/08 ... more specifically:

1. We support the definition of "laminated products" in Section 93120.1(25)
2. We support the additional label requirements added for fabricators in Section 93120.7(d).
3. We support the addition of a "secondary test method by third party certifiers" in Section 93120.9. We strongly believe that the addition of this test method for certification will help facilitate and improve the ability of off-shore compliance to the ATCM. We also support the use of the secondary test method for compliance purposes as a "deconstructive test" to verify the compliance of composite wood products used as component parts of finished products.
4. We support the modification to the definition of hardwood plywood in Section 93120.1(19) not to include curved plywood.
5. We support the modification in 93120.7(a)(2) not to require third party certification for fabricators that are also "producers of laminated products."
6. We support the modification in 93120.7(a)(3) that requires the composite wood product of the "platform" of a laminated product to meet the applicable emission requirement of the composite wood product used.
7. We support the modification in 93120.7(a)(4) that requires fabricators to meet the requirements of 93210.3 if they are manufacturing a composite wood product used exclusively by the fabricator as component parts of finished products.
8. We strongly support the 18 month sell through period as prescribed in 93120.2 (a) and agree with the language "that does not comply with Phase 1 and Phase 2 effective dates." This will allow for the adequate "turn of inventory" within the supply chain and facilitate compliance.

Let me know if you have any questions.

Bill Perdue

VP ESH - Standards

AHFA

336-884-5000, x117

276-806-2014 m

bperdue@ahfa.us

**Attachment:**

**Original File Name:**

**Date and Time Comment Was Submitted: 2008-02-14 13:56:28**

**No Duplicates.**

## **Comment 8 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Dick

Last Name: Titus

Email Address: dtitus@kcma.org

Affiliation: Kitchen Cabinet Manufacturers Associatio

Subject: Comments on January 31, 2008 Revised ATCM for Compwood

Comment:

The Kitchen Cabinet Manufacturers Association (KCMA) appreciates this opportunity to comment on the January 31, 2008, version of the ATCM for composite wood products made available for a 15-day comment period.

KCMA is the principal U.S. trade association for manufacturers of kitchen cabinets, bath vanities, and storage cabinets for other rooms. The compwood ATCM will directly impact all KCMA members manufacturing or selling cabinets in California.

Wood and wood products, including particleboard, hardwood plywood, and medium density fiberboard, are essential materials used in the manufacture of the overwhelming majority of industry products.

Cabinet manufacturers are subject to provisions of the ATCM regulating fabricators. We support the revised definition of "fabricator" -- Section 93120.1(a)(12) -- that has been expanded to include the production of laminated products. The revised definition of "laminated product" -- Section 93120.1 (a) (25) -- also is supported.

The revised language in Section 93120.7 (2)-(4) regarding the treatment of laminated products clarifies how such products will be regulated. The revised language is consistent with the scope and purpose of the ATCM. KCMA supports the revised language.

Currently, the regulation lacks a clear summary page of the effective dates fabricators must satisfy in order to be in compliance such as was developed for compwood manufacturers. We request that such a chart be developed and added to the regulation or made available as soon as possible to assist companies in developing their compliance strategy.

It is suggested that the clarification provided in Section 93120.7(b)(3) regarding the responsibilities of local government agencies and school districts clearly be made applicable to all state government agencies.

KCMA generally supports the 18-month sell-through provisions of the regulation.

CARB staff deserves recognition for the openness and fairness with which this long and difficult process has been conducted. We anticipate many challenges when the actual enforcement phase begins. Hopefully, the same approach will continue.



Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-14 17:38:11

No Duplicates.

**Comment 9 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Scott  
Last Name: Earnshaw  
Email Address: scott.earnshaw@hexion.com  
Affiliation:

Subject: CARB ATCM Submission  
Comment:

COMMENTS OF

HEXION SPECIALITY CHEMICALS (NZ) LIMITED, NEW ZEALAND  
CARTER HOLT HARVEY PINEPANELS, NEW ZEALAND  
DONGWHA PATINNA NZ LTD, NEW ZEALAND  
NELSON PINE INDUSTRIES, NEW ZEALAND

ON THE PROPOSED AIRBORNE TOXIC CONTROL MEASURE

TO REDUCE FORMALDEHYDE EMISSIONS FROM COMPOSITE WOOD PRODUCTS

Dear sir/madam

The parties above which include Hexion Specialty Chemicals and the three manufacturers of MDF in New Zealand welcome the opportunity to offer comments and suggestions on the latest Draft of the Airborne Toxic Control Measure to reduce emissions from Composite Wood Panels issued on 31st January 2008. Please find attached our submission.

Attachment: [www.arb.ca.gov/lists/compwood07/112-carb\\_submission\\_f3\\_150208.pdf](http://www.arb.ca.gov/lists/compwood07/112-carb_submission_f3_150208.pdf)

Original File Name: CARB Submission F3 150208.pdf

Date and Time Comment Was Submitted: 2008-02-14 19:47:01

No Duplicates.

**Comment 10 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Timothy  
Last Name: Mann  
Email Address: timmann@us.ibm.com  
Affiliation: IBM

Subject: Comments on Proposed Formaldehyde ATCM  
Comment:

IBM Comments on Modified Final Proposed Version of ATCM to reduce  
Formaldehyde from Composite Wood Products are attached

Attachment: [www.arb.ca.gov/lists/compwood07/113-formaldehyde\\_atcm\\_-\\_ibm\\_comments.pdf](http://www.arb.ca.gov/lists/compwood07/113-formaldehyde_atcm_-_ibm_comments.pdf)

Original File Name: Formaldehyde ATCM - IBM Comments.pdf

Date and Time Comment Was Submitted: 2008-02-15 08:58:07

No Duplicates.

## **Comment 11 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Michael  
Last Name: Zimmerman  
Email Address: mzimmerman@sauder.com  
Affiliation: Sauder Woodworking Co.

Subject: Comments on Feb 1st Draft of ATCM Composite Wood  
Comment:

To the Board of California Air Resources Board (CARB)  
Again, thank you for the opportunity to share some of our comments regarding the CARB regulation 93120. We feel there are several issues in your regulation that need to be addressed.

1. Changes in the language for sell-through for the Fabricator section page 45 may be more confusing. The original wording was (Page 38 of the Dec 21st Draft):

a. Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF produced before the Phase 1 and Phase 2 effective dates specified in section 93120.2 (a) may be sold, supplied offered for sale by fabricators for up to eighteen months after each of the specified effective dates.

It is now worded as (page 45 of Feb 1st draft):

b. Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF that does not comply with Phase 1 and Phase 2 effective dates specified in section 93120.2 (a) may be used, sold, supplied, offered for sale by fabricators for up to eighteen months after each of the specified effective dates.

This wording change seems to allow a Fabricator to continue using non-complying composite panels in their manufacturing processes till June 30th 2010 and sell into California. Do we as a Fabricator have till June 30th 2010 to comply?

2. The proposed finished product enforcement testing still lacks validation scientifically. The lack of data or evidence for the finished products testing is concerning. The regulation will be implemented without sound scientific data correlating raw panel large chamber testing to a finished product enforcement test. There are several hundred different board mills in the world and a thousand different methods to finish a panel. What impact will each variable have on the finished product testing? Will each mill have a different emission factor when sanded? Do finishes when removed impact the emission of the sanded composite panel? Combine both unknowns and an already large error associated with finished product emissions testing it may be impossible to know whether or not a finished composite panel was or was not compliant to the Regulation.

3. The regulation does not promote the use of lower emitting composite products use by the Fabricators. The regulation gives the manufacturers incentives to use lower emitting resins for making composite panels. However, there is no incentive for the Fabricators to buy and use those panels. In a cost-sensitive market, price is still more powerful than environmentally

friendly. Studies continue to show that the majority of consumers will not pay even 1% more for an environmentally friendly product. The lower emitting panels will probably have some added cost associated with them. If the Fabricator cannot off-set that cost, Fabricators will not use the lower emitting products that CARB would like to promote. Is there not an off-set possible by reducing the paper work or tracing requirements or recognition??

4. Will there be more specific labeling requirements, such as font and size and specific wording for the CARB Phase I Compliant?
5. Will there be specific wording for Bill of Lading and Invoices?

Sincerely,

Michael Zimmerman  
Senior R&D Chemist  
Sauder Woodworking Co.  
mzimmerman@sauder.com

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-02-15 09:05:43

No Duplicates.

**Comment 12 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Sebastian  
Last Name: Fernandez  
Email Address: sebastian.fernandez@arauco.cl  
Affiliation:

Subject: Comments from Paneles Arauco  
Comment:

Please see the attached file for comments on the ATCM.

Best Regards,

Sebastian Fernandez  
Planning Engineer  
Paneles Arauco  
Phone: 56-2-4617502  
sebastian.fernandez@arauco.cl

Attachment: [www.arb.ca.gov/lists/compwood07/115-comments\\_on\\_atcm.doc](http://www.arb.ca.gov/lists/compwood07/115-comments_on_atcm.doc)

Original File Name: Comments on ATCM.doc

Date and Time Comment Was Submitted: 2008-02-15 10:34:50

No Duplicates.

**Comment 13 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Suzanne

Last Name: Morgan

Email Address: [suzanne@iwpawood.org](mailto:suzanne@iwpawood.org)

Affiliation: International Wood Products Association

Subject: IWPA Letter for Modified ATCM 15-day Public Comment Period

Comment:

Please find attached IWPA's Comment Letter for the modified  
Airborne Toxic Control Measure (ATCM) dated January 31, 2008.

Attachment: [www.arb.ca.gov/lists/compwood07/116-iwpa\\_atcm\\_15-day\\_comment\\_letter.pdf](http://www.arb.ca.gov/lists/compwood07/116-iwpa_atcm_15-day_comment_letter.pdf)

Original File Name: IWPA ATCM 15-day Comment Letter.pdf

Date and Time Comment Was Submitted: 2008-02-15 12:36:38

No Duplicates.

**Comment 14 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Thomas

Last Name: Julia

Email Address: tjulia@cpamail.org

Affiliation: Composite Panel Association

Subject: Comments on 15 Day Amendments to Rule

Comment:

Comments are attached

Attachment: [www.arb.ca.gov/lists/compwood07/117-dc1docs1-\\_266134-v1-carb\\_15-day\\_final.pdf](http://www.arb.ca.gov/lists/compwood07/117-dc1docs1-_266134-v1-carb_15-day_final.pdf)

Original File Name: DC1DOCS1-#266134-v1-CARB\_15-day\_Final.pdf

Date and Time Comment Was Submitted: 2008-02-15 13:39:23

No Duplicates.



**Comment 15 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Matt

Last Name: Wald

Email Address: mwald@rvia.org

Affiliation:

Subject: Comments Submitted by the Recreation Vehicle Industry Association (RVIA)

Comment:

Comments attached.

Attachment: [www.arb.ca.gov/lists/compwood07/118-california\\_comments.doc](http://www.arb.ca.gov/lists/compwood07/118-california_comments.doc)

Original File Name: California Comments.doc

Date and Time Comment Was Submitted: 2008-02-15 13:47:51

No Duplicates.

**Comment 16 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: David  
Last Name: Harmon  
Email Address: David.Harmon@Hexion.com  
Affiliation: Hexion Specialty Chemicals, Inc

Subject: Comments on the Proposed Airborn Toxic Control Measure to Reduce Formaldehyde Emissions fu

Comment:

Attached are additional comments on this ATCM from Hexion Specialty Chemicals, Inc.

Attachment: [www.arb.ca.gov/lists/compwood07/119-hexion\\_additional\\_comments\\_-\\_021508.doc](http://www.arb.ca.gov/lists/compwood07/119-hexion_additional_comments_-_021508.doc)

Original File Name: Hexion Additional Comments - 021508.doc

Date and Time Comment Was Submitted: 2008-02-15 13:47:57

No Duplicates.

## **Comment 17 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Jim  
Last Name: Rabe  
Email Address: jrabe@masonite.com  
Affiliation: Masonite Corporation

Subject: Public Comments on the Proposed ATC Measure 93120  
Comment:

I am Vice President of Environmental Health and Safety for Masonite Corporation. The following comments are submitted by me on behalf of Masonite. The following comments and recommendations were compiled through an extensive evaluation by Masonite technical, EHS, production and engineering personnel. Masonite believes them to be valid and reasonable for consideration by the Air Resource Board to improve the effectiveness and efficiency of the regulation.

Jim Rabe

1. Masonite proposes the qualification period for the "Exempt ULEF" status (6 months of QC testing) be made consistent with that required for "no added-formaldehyde" status (3 months of QC tests). Suggested language:  
"If, after three months of routine QC testing and one primary or secondary method test, 90% of the emissions results are within the target value of 0.04 ppm, and no emissions results exceed the cap value of 0.06 ppm, the manufacturer may immediately petition the Executive Officer for approval of exempt ULEF status."
2. Masonite plant personnel are concerned that testing one sample per shift (up to 540 tests per production line in six months) will be too burdensome on production if required to perform this many tests. Three months of daily testing would provide 90 data points for production, which would be more than adequate to give a reliable estimate of the mean and variability of the emissions from the product. Standard practice in statistical methods accepts a minimum of 30 data points to validate the sample population. Masonite proposes a reduction in QC test frequency from one per shift to one per day.
3. For the same reason stated above the test frequency for standard production for components that do not meet the ULEF standard should be reduced from once per shift to one per day.
4. QC test frequency should be reduced for products that attain the ULEF, but not "exempt ULEF", designation to once per week, rather than once every 48 hours. Once per week will yield 52 data points over a year, sufficient data for estimating the mean and variability of the emissions.
5. Exterior doors can be made with laminated veneer lumber stiles and rails made with hardwood or softwood and capped with finger jointed softwood. Masonite proposes this type of material does

not fall under the definition of HWPW and is exempt from the regulations.

6.Masonite proposes that a 2-ply HWPW-CC panel have the same emissions level as thin MDF. The basis for this is there are 2-ply door skins, comprised of a thin hardwood veneer which makes up 10% of the skin by weight, laminated to an MDF substrate that makes up 90% of the skin by weight. When testing this skin in a large chamber the MDF will contribute the majority of the emissions.

7.CARB's definition of a "window" includes jambs. The definition of a "door" is not specific as to its components. The definition should be revised to include framing members for pre-hung doors.

8.Section 93120.7.b.2: Exterior doors and garage doors that contain composite wood products are exempt if the doors are made for exterior use. What is the definition of exterior use?

9.Section 93120.7.b.2: Exterior doors and garage doors that contain composite wood products are exempt if the doors contain less than 3% by volume of HWPW, PB or MDF. Masonite requests that exterior doors be exempt if the HWPW, PB or MDF components make up 15% or less by volume of the finished door, if the component is sealed entirely inside the door or has only one exposed edge. The basis for this is that the smallest components of a door such as composite wood lock blocks are totally encased inside a door and rails which are only exposed on one edge can make up to 15% by volume of the door.

Attachment: [www.arb.ca.gov/lists/compwood07/120-masonite\\_comments\\_\\_93120.doc](http://www.arb.ca.gov/lists/compwood07/120-masonite_comments__93120.doc)

Original File Name: Masonite Comments 93120.doc

Date and Time Comment Was Submitted: 2008-02-15 13:50:16

No Duplicates.

**Comment 18 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Sarah  
Last Name: Macedo  
Email Address: smacedo@formaldehyde.org  
Affiliation: Formaldehyde Council, Inc.

Subject: FCI comments regarding Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emi

Comment:

Good Afternoon,

Please see the Formaldehyde Council, Inc.'s comments regarding the Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products attached.

Feel free to contact us at 703.741.5750 with questions.

Best,  
Sarah Macedo  
Program Coordinator  
Formaldehyde Council, Inc.

Attachment: [www.arb.ca.gov/lists/compwood07/121-fci\\_comments\\_-\\_carb\\_proposed\\_airborne\\_toxic\\_control\\_measure\\_to\\_reduce\\_formaldehyde\\_emissions\\_from\\_composite\\_wood\\_products\\_2152008.pdf](http://www.arb.ca.gov/lists/compwood07/121-fci_comments_-_carb_proposed_airborne_toxic_control_measure_to_reduce_formaldehyde_emissions_from_composite_wood_products_2152008.pdf)

Original File Name: FCI Comments - CARB Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products 2152008.pdf

Date and Time Comment Was Submitted: 2008-02-15 14:07:16

No Duplicates.

## **Comment 19 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Brad  
Last Name: Miller  
Email Address: bmiller@bifma.org  
Affiliation: BIFMA International

Subject: Office Furniture Industry Comments  
Comment:

California Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95812-2815

Dear Mr. Aguila:

We appreciate this additional opportunity to comment on the Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products. BIFMA strongly supports the changes related to laminated products as produced by fabricators. These changes are essential as they address potential confusion and ensure consistency of the scope and application of the regulation with CARB direction and efforts throughout the development of the rule. BIFMA also strongly supports the exemption for curved plywood as this helps to clarify the focus of the regulation on the areas with maximum effect.

Your efforts to better define the roles of manufacturers and fabricators under the rule has been helpful and the informal response to our questions earlier this week was also insightful.

For labeling purposes, we understand that a label shall be applied on "every finished good produced or on every box containing finished goods". That means one label on the box would comply with the regulation but labeling both the box and finished goods would aide in enforcement. Separate labels can be used to identify fabricator name, production date, and that the finished good was made with complying compositewood products, as long as the labels are all visible (e.g., inside a cabinet door or on the back of a credenza). If three different finished goods were all packed on a single skid, each would need a separate label.

A label for a finished good does not need to list the name of the panel manufacturer. The fabricator only needs to keep records of panel purchases to demonstrate that all composite wood products used in finished goods complied with the regulation. Records on the amount of composite wood used to make finished goods would need to match the amount of complying composite wood purchased from the mills.

With regard to potential inspections, fabricators and retailers need to keep records to show they've taken "reasonable prudent precautions" to ensure compliance. These records need to be kept in hard copy or electronic form and must show that the fabricators and retailers instructed their suppliers of the need for complying

products. The fabricators and retailers must also keep records to show that their suppliers have stated that the products being provided comply. This requirement would stop at the retailer and not be carried on to the purchaser (e.g., home or place of business).

Another issue to come forward from one of our members concerned having enough time to meet the California requirements by the end of the year. If no mechanism is in place to find out if that is a widespread reality, we recommend a mid-summer review to determine if an extension is warranted.

Specific to the testing methods, in section 93120.9 (a) (2) (B), the requirement to demonstrate equivalence between the primary and secondary method every year appears excessive. Once a laboratory has demonstrated equivalence, if laboratories are accredited with each of the test methods within their scope, approved third-party certifiers can observe the testing at any time, and if the test methods have not been changed or updated, it appears to be a wasteful exercise to repeat the extensive equivalence determination testing every year. We respectfully suggest it is more efficient to define any changes, which would trigger more frequent determinations of equivalence, but otherwise default to a frequency of every three, four, or even five years.

Similarly, mandating inter-laboratory comparisons be conducted every two years is extremely onerous and expensive, as required in Appendix 3 (b) (1) (F). BIFMA's experience coordinating a round-robin study for the ANSI/BIFMA furniture emissions standards has shown the tremendous complexity and coordination effort that such a study requires. The requirement for inter-laboratory comparison studies would be much more appropriate if it was required every five years or anytime there was a significant change in the standard testing methods.

Thank you for clarification of these important topics and consideration of our concerns. We look forward to participating in the Finished Product Test Method Task Group to help assure appropriate tests for formaldehyde in finished products when necessary in the enforcement process.

Sincerely,

Brad Miller  
Director of Communications and Government Affairs  
Business and Institutional Furniture Manufacturers Association  
(BIFMA) International

Attachment: [www.arb.ca.gov/lists/compwood07/122-carb\\_comments.doc](http://www.arb.ca.gov/lists/compwood07/122-carb_comments.doc)

Original File Name: CARB Comments.doc

Date and Time Comment Was Submitted: 2008-02-15 14:19:20

No Duplicates.

## **Comment 20 for Formaldehyde Emissions from Composite Wood Products (compwood07) - 15-1.**

First Name: Dennis  
Last Name: Bradway  
Email Address: dennisb@mannington.com  
Affiliation:

Subject: Modified Compwood ATCM  
Comment:

February 15, 2008

Dear Ms Csondes

Subject: ARB Modified Compound ATCM

Thank you for the opportunity to provide comment on the modified document.

I have a just few questions and comments regarding the document; most are really more questions as point of clarification.

A) On page 1-58 there is reference to testing method and frequency for hardwood plywood which spells out a specified criteria based upon weekly sq. ft of production. There should be a level of flexibility regarding reduced testing requirements if one can demonstrate statistical compliance at a reduced level of testing burden. The test requirement is to condition for seven days before testing, so obviously it is not being directly used to monitor and adjust one's process. If testing is at zero conditioning, then one is obligated to provide the correlation and expected decay curve representing compliance at the seven day conditioning timeframe. I don't believe as much of this data exists for HWPW as ARB may be expect.

In the same respect that a manufacturer can define product categories or groupings, a manufacturer should be able to submit a statistically sound sampling and testing scheme utilizing approved methodology in order to demonstrate compliance. It will ultimately be supported by the quarterly primary or secondary testing anyway. We would simply request the additional statement below the table under paragraph "C" on page 1-58

"Or sufficient sampling frequency utilizing approved methodology in order to demonstrate compliance"

B) Since the testing methods call for a seven day conditioning time period, I assume even for field compliance verification testing, it would be mandated to follow the same protocol of sampling, appropriate conditioning then testing.

C) To us it would seem appropriate that compliance testing should be on a product or article as sold for point of use and tested in a manner consistent with recommended use(i.e horizontal, finished



side up). Reducing of that product to its component parts to test would render the product non serviceable and would almost certainly reduce the accuracy and applicability of the test results.

D) We believe we should be able to start the exemption application in parallel to the generation of the data collection process, with approval contingent upon satisfactory demonstration of the data.

Thank you for consideration of these comments

Respectfully

Dennis H. Bradway  
Mgr Technical Support  
Mannington Mills

Attachment: [www.arb.ca.gov/lists/compwood07/123-arb\\_modified\\_atcm.doc](http://www.arb.ca.gov/lists/compwood07/123-arb_modified_atcm.doc)

Original File Name: ARB modified ATCM.doc

Date and Time Comment Was Submitted: 2008-02-15 14:30:42

No Duplicates.

**Comment 21 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Chris

Last Name: Cleet

Email Address: ccleet@itic.org

Affiliation: Information Technology Industry Council

Subject: ITI comments on composite wood products rule

Comment:

Please see the attached comments from the Information Technology Industry Council (ITI) on the composite wood products rule.

Attachment: [www.arb.ca.gov/lists/compwood07/124-iti\\_arb\\_comments\\_2\\_15\\_08.pdf](http://www.arb.ca.gov/lists/compwood07/124-iti_arb_comments_2_15_08.pdf)

Original File Name: ITI ARB comments 2 15 08.pdf

Date and Time Comment Was Submitted: 2008-02-15 14:38:37

No Duplicates.

**Comment 22 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Kip  
Last Name: Howlett  
Email Address: khowlett@hpva.org  
Affiliation: Hardwood Plywood & Veneer Association

Subject: HPVA Comments on ATCM for Composite Wood Products  
Comment:

Please consider the attached comments from HPVA in regard to the 15-Day Notice of Public Availability of Modified Text and Availability of Additional Document for the Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products.

Thank you.

Attachment: [www.arb.ca.gov/lists/compwood07/125-hpva\\_15-day\\_public\\_comment\\_response.pdf](http://www.arb.ca.gov/lists/compwood07/125-hpva_15-day_public_comment_response.pdf)

Original File Name: HPVA 15-Day Public Comment Response.pdf

Date and Time Comment Was Submitted: 2008-02-15 14:54:26

No Duplicates.

**Comment 23 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Alfred  
Last Name: Hodgson  
Email Address: baalab@berkeleyanalytical.com  
Affiliation: Berkeley Analytical Associates, LLC

Subject: Comments on Attachments 1 and 2  
Comment:

Thank you for the opportunity to comment on the revised ATCM to reduce formaldehyde emissions from composite wood products. Berkeley Analytical Associates' comments on Attachments 1 and 2 are contained in the attached document. Please contact us if you would like to discuss any of our comments in more detail.

Attachment: [www.arb.ca.gov/lists/compwood07/126-baa\\_comments\\_atcm\\_formaldehyde\\_comp\\_wood\\_feb1508.doc](http://www.arb.ca.gov/lists/compwood07/126-baa_comments_atcm_formaldehyde_comp_wood_feb1508.doc)

Original File Name: BAA Comments ATCM Formaldehyde Comp Wood\_Feb1508.doc

Date and Time Comment Was Submitted: 2008-02-15 15:35:59

No Duplicates.

**Comment 24 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Patrick  
Last Name: Dennis  
Email Address: pdennis@gibsondunn.com  
Affiliation:

Subject: Gibson, Dunn, and Crutcher  
Comment:

Please see attached.

Attachment: [www.arb.ca.gov/lists/compwood07/127-compwood070001.pdf](http://www.arb.ca.gov/lists/compwood07/127-compwood070001.pdf)

Original File Name: compwood070001.pdf

Date and Time Comment Was Submitted: 2008-02-15 16:04:45

No Duplicates.

**Comment 25 for Formaldehyde Emissions from Composite Wood Products  
(compwood07) - 15-1.**

First Name: Randy

Last Name: Clark

Email Address: Non-web submitted comment

Affiliation:

Subject: Jeldwen

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/compwood07/128-jeldwen0001.pdf](http://www.arb.ca.gov/lists/compwood07/128-jeldwen0001.pdf)

Original File Name: jeldwen0001.pdf

Date and Time Comment Was Submitted: 2008-02-20 12:32:50

No Duplicates.