

Revised September 6, 2019

Comparison of Key Requirements of CARB and U.S. EPA TSCA Title VI Regulations  
to Reduce Formaldehyde Emissions from Composite Wood Products

**Note:** For composite wood products and finished goods sold in California, if there is a difference between the CARB and U.S. EPA requirements, the more stringent requirement applies, regardless of whether it is a CARB or U.S. EPA requirement. This table will be updated if there are future changes to the regulatory requirements.

**Legal Disclaimer:** The California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products (sections 93120-93120.12, title 17, California Code of Regulations) addresses formaldehyde emissions from composite wood products. The United States Environmental Protection Agency (EPA) enacted a similar regulation pursuant to the federal Toxic Substances Control Act (TSCA), 15 U.S.C. section 2697. CARB staff has prepared the following table to compare key requirements of the two regulations. Unlike the regulations, this table does not have the force of law. It is not intended to and cannot establish new requirements beyond those that are already in the regulations, and it does not supplant, replace, or amend any of the legal requirements of the regulations. Conversely, any omission or truncation of regulatory requirements found within this table does not relieve stakeholders of their legal obligation to fully comply with all requirements of the regulations.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
Effective date	Introduced in two phases between 2009 and 2013, with initial emission standards (Phase 1) followed by more stringent emission standards (Phase 2); as of January 2014, only Phase 2 compliant products are legal for sale in California.	TSCA Title VI regulation became effective on May 22, 2017; compliance date (manufacture-by date) for emission standards is June 1, 2018. <ul style="list-style-type: none"><li>• As of March 22, 2019, all composite wood products (i.e., panels) must be TSCA Title VI compliant; all finished goods (e.g., flooring, cabinets, or furniture) that contain composite wood products must be produced using composite wood material produced by a panel producer that is TSCA Title VI compliant.</li><li>• Composite wood panels produced domestically or imported into the U.S. prior to June 1, 2018, may be sold or used to make finished goods until supplies are depleted.</li></ul>

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		<ul style="list-style-type: none"> <li>• Technical amendments became effective on August 21, 2019.</li> </ul>
Authority for regulation	California Health & Safety Code (title 17, sections 93120 – 93120.12).	Federal Toxic Substances Control Act, 15 U.S.C., Sec. 2697 (TSCA Title VI).
Emission standards	<p>Formaldehyde emission standards for three types of composite wood products (i.e., panels): hardwood plywood (HWPW), particleboard (PB), and medium density fiberboard (including thin MDF).</p> <ul style="list-style-type: none"> <li>• Requires use of composite wood products that comply with emission standards in all finished goods.</li> </ul>	Same as CARB.
Affected businesses	Manufacturers (i.e., panel producers); fabricators of finished goods; and distributors, importers, and retailers of panels and finished goods.	Same as CARB.
Recordkeeping	Two years.	<b>More stringent than CARB</b> - three years.
Manufacturers (i.e., panel producers)	<p>Compliance with Phase 2 formaldehyde emission standards must be verified by a CARB-approved third-party certifier. Manufacturers must comply with quality assurance testing requirements.</p> <p><b>Note:</b> If CARB requirements are more stringent than those required by TSCA Title VI (e.g., for quality control testing), then the CARB requirements must be followed for the panels to be legal for sale in California or for the panels to be used to make finished goods for sale in California.</p>	<p>Similar requirements. Compliance with TSCA Title VI formaldehyde emission standards must be verified by an EPA-recognized third-party certifier.</p> <p><b>Note:</b> Compliance with CARB’s more stringent requirements does not invalidate the TSCA Title VI certification issued by an EPA-recognized third-party certifier.</p>

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Product labeling	<p>Requires panels (or bundles of panels) and finished goods (or boxes that contain finished goods) to be labeled as compliant with CARB's Phase 2 formaldehyde emission standards.</p> <p><b>Note:</b> Panels and finished goods that comply with TSCA Title VI and are labeled as TSCA Title VI compliant will be accepted as being compliant with CARB's formaldehyde emission standards, because the TSCA Title VI and CARB emission standards are identical. Panels and finished goods labeled TSCA Title VI compliant are assumed to meet all CARB requirements, including those that are more stringent than TSCA Title VI.</p> <ul style="list-style-type: none"> <li>• <u>Panels</u> - Information required for label on panel (or bundles of panels): <ul style="list-style-type: none"> <li>➢ Name of panel producer.</li> <li>➢ Product lot or batch number.</li> <li>➢ Compliance level [Phase 2, NAF (made with no-added formaldehyde resin), or ULEF (made with ultra-low-emitting formaldehyde resin)].</li> <li>➢ CARB third-party certifier number (not required for NAF/ULEF panel producers exempted from third party certification).</li> </ul> </li> <li>• <u>Finished goods</u> - Information required for label on finished good (or box that contains finished good): <ul style="list-style-type: none"> <li>➢ Fabricator name.</li> <li>➢ Production date (month and year).</li> <li>➢ Compliance level (Phase 2 or NAF/ULEF).</li> </ul> </li> </ul>	<p>As of March 22, 2019, all manufactured (including imported) regulated composite wood panels and finished goods must be labeled as TSCA Title VI compliant.</p> <ul style="list-style-type: none"> <li>• <u>Panels</u> - Information required for label on panel (or bundles of panels): <ul style="list-style-type: none"> <li>➢ Name of panel producer.</li> <li>➢ Product lot number.</li> <li>➢ Compliance level (TSCA Title VI or NAF/ULEF).</li> <li>➢ EPA TSCA Title VI third-party certifier number.</li> <li>➢ NAF/ULEF panels require EPA TSCA Title VI third-party certifier number.</li> </ul> </li> <li>• <u>Finished goods</u> - Information required for label on finished good (or box that contains finished good): <ul style="list-style-type: none"> <li>➢ Fabricator name.</li> <li>➢ Production date (month/year).</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>➤ Compliance level [TSCA Title VI; label may also note if made with NAF/ULEF products (if true for all composite wood products in finished good), or made with combination of TSCA Title VI and NAF/ULEF products].</li> </ul>
Identification of unlabeled panels and finished goods	Individual panels and finished goods are not required to be labeled (when bundles of panels or boxes of multiple finished goods are labeled).	<b>More stringent than CARB</b> - Requires importers, distributors, fabricators, and retailers to have method (e.g., color-coded edge marking) to identify supplier of each compliant panel and finished good.
De minimis labeling requirement	<b>More stringent than EPA</b> - All finished goods must be labeled as containing Phase 2 compliant composite wood material, regardless of amount of composite wood material contained in the finished good.	Labeling of a finished good is not required if the composite wood product content does not exceed 144 square inches, based on the surface area of the largest face (e.g., small picture frame); however, the composite wood material must still be compliant.
Reasonable prudent precautions	Fabricators, importers, distributors, and retailers are required to take reasonable prudent precautions (e.g., obtaining statements of compliance from suppliers) to ensure purchase and sale of compliant products.	Same as CARB.
Fabricators of wood-veneered laminated products (e.g., table tops, cabinet doors)	Requires use of CARB Phase 2 compliant platform (core) material.	Requires use of TSCA Title VI compliant platform (core) material.  <b>More stringent than CARB</b> - Beginning March 22, 2024, these fabricators must comply with requirements for HWPW panel producers; requires routine emissions testing and third-party certification as required for HWPW panel

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		<p>producers; exempt from testing and certification requirement based on use of NAF or phenol formaldehyde (PF) resin (verified by recordkeeping). Final EPA rule allows businesses that produce veneered laminated products to petition EPA to add exemptions from the definition of “HWPW.” (Petition process only applies to laminated products consisting of wood or woody grass veneers, and does not include synthetic laminates.)</p>
Third-party certification	<p>Required for all panel producers.</p> <ul style="list-style-type: none"> <li>• Third-party certifiers (TPCs) must be approved by CARB (CARB currently has 35 approved TPCs); re-approval required every two years.</li> <li>• TPCs must participate in inter-laboratory comparisons and submit annual reports to CARB.</li> <li>• Third-party certification is limited to panel producers and does not include fabricators of finished goods.</li> </ul>	<p>Requires CARB-approved TPCs to apply to EPA for recognition before they can certify any products under TSCA Title VI.</p> <ul style="list-style-type: none"> <li>• As of March 22, 2019, TPCs must meet EPA’s specified qualifications and be accredited by EPA-approved product and laboratory accreditation bodies (ABs).</li> <li>• TPCs must participate in inter-laboratory comparisons organized by CARB or EPA.</li> <li>• TPCs must submit annual reports to EPA through EPA’s Central Data Exchange (CDX) system. (TPCs can allow CARB access to reports, to eliminate need to send reports to both agencies).</li> <li>• New TPCs (not CARB-approved) must be accredited by an EPA-approved product AB to ISO/IEC 17065 and by an EPA-approved laboratory AB to ISO/IEC 17025 before being recognized by EPA, in addition to meeting all other TSCA Title VI requirements.</li> </ul>

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	<p>TPCs may use primary or secondary test methods to certify panel producers, to establish quality control limits and correlations with quality control test methods operated by panel producers, and for quarterly emissions tests at panel producers.</p>	<p>Same as CARB.</p>
<p>Exemption from third-party certification based on use of no-added formaldehyde (NAF) or ultra-low-emitting formaldehyde (ULEF) resins</p>	<p>Panel producers must work with TPC to conduct testing and apply to CARB for approval to be granted exemption from TPC-oversight for two years.</p> <ul style="list-style-type: none"> <li>Panel producers must apply for re-approval every two years.</li> </ul> <p><b>More stringent than EPA</b> - NAF application for exemption from TPC oversight requires three months of quality control (QC) data and one TPC test (primary or secondary test method);</p>	<p>Status quo for panel producers already approved by CARB.</p> <ul style="list-style-type: none"> <li>Panel producers seeking new exemption must apply to CARB or their EPA TSCA Title VI TPC for approval to be granted exemption from TPC-oversight for two years.</li> <li>Must apply for re-approval every two years.</li> <li>NAF/ULEF panels must be labeled as specified in TSCA Title VI, including panel producer's TSCA Title VI TPC number.</li> <li>EPA requests that CARB-approved Executive Orders for NAF/ULEF exemptions and approvals for reduced testing be provided to EPA by the TSCA Title VI TPC through the EPA CDX system.</li> <li>Applications to EPA for NAF/ULEF exemption or reduced testing must be submitted to the EPA CDX system by an EPA-recognized TSCA Title VI TPC.</li> </ul> <p><u>NAF</u> - Application for exemption from TPC oversight requires three months of QC data and one TPC test; 90 percent of QC data (does not include TPC test) must be no higher than</p>

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	<p>90 percent of QC data <b>and</b> the TPC test must be no higher than 0.04 ppm; all data must be no higher than 0.05 ppm for HWPW and no higher than 0.06 for PB, MDF, and thin MDF.</p> <ul style="list-style-type: none"> <li>• <u>ULEF</u> - same requirements as NAF, but requires six months of QC data and two TPC tests.</li> </ul>	<p>0.04 ppm; all data must be no higher than 0.05 ppm for HWPW and no higher than 0.06 ppm for PB, MDF, and thin MDF.</p> <ul style="list-style-type: none"> <li>• <u>ULEF</u> - same requirements as NAF, but requires six months of QC data and two TPC tests.</li> </ul>
Domestic agents	Not required.	<b>More stringent than CARB</b> - All accreditation bodies and TPCs located outside of the U.S. must have an agent for service within the U.S. to receive legal documents and correspondence from EPA.
Quality control (QC) testing and QC test methods used by panel producers	<p>Hardwood plywood:</p> <ul style="list-style-type: none"> <li>• <b>More stringent than EPA</b> - Panel producers that make less than 200,000 square feet per week of hardwood plywood must conduct at least <u>one QC emission test per week</u> of production for each product type and product line.</li> <li>• At least two QC tests per week are required for weekly production of 200,000 - 400,000 square feet.</li> <li>• At least four QC tests per week for weekly production of greater than 400,000 square feet.</li> </ul> <p>PB and MDF:</p> <ul style="list-style-type: none"> <li>• Panel producers are required to conduct at least one QC test for each 8 or 12 hour shift of operation.</li> </ul>	<p>Hardwood plywood:</p> <ul style="list-style-type: none"> <li>• Producers may conduct as few a <u>one QC emission test per month</u> if they produce less than 100,000 square feet.</li> <li>• At least one QC test per week for weekly production of 100,000 – 200,000 square feet.</li> <li>• At least two QC tests per week for weekly production of 200,000 – 400,000 square feet.</li> <li>• At least four QC tests per week for weekly production of 400,000 square feet or more.</li> </ul> <p>Same as CARB.</p>

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	<p>QC test methods.</p> <ul style="list-style-type: none"> <li>• CARB’s ATCM specified two QC test methods.</li> <li>• CARB has approved five alternative QC test methods (listed on CARB’s composite wood products webpage under the heading of “Test Methods”).</li> </ul>	<p>Same as CARB.</p>
<p>Development of correlation values</p>	<p>TPC’s primary or secondary test method results and a panel producer’s quality control test results must be shown to correlate based on a minimum of five data pairs.</p> <ul style="list-style-type: none"> <li>• Correlation is used in establishing a quality control limit for each product type and production line.</li> </ul>	<p>Correlation based on a minimum of five data pairs; must also calculate linear regression. Alternatively, a panel producer may use the cluster or threshold approach described in the TSCA regulation.</p> <ul style="list-style-type: none"> <li>• <b>More stringent than CARB</b> - Requires successful annual correlation for three years; afterwards, required every two years.</li> </ul>
<p>Equivalence for secondary test method</p>	<p>Allows TPCs to use small chambers for certification tests of panel producers, after small chamber method has been established as secondary test method, providing equivalent test results as primary test method (large chamber) through a series of tests.</p> <p><b>More stringent than EPA</b> – Equivalence between secondary test method and primary test method must be established by <b>annual</b> comparison.</p> <p>Equivalence requires five comparison tests in at least two emission ranges:</p>	<p>Similar requirements.</p> <p>After three successful annual equivalence demonstrations, equivalence testing only required every two years.</p> <p>Similar requirements.</p>



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	<p>Emission ranges:</p> <p><u>Low range</u>: less than 0.07 ppm.  <u>Intermediate range</u>: 0.07 ppm to less than 0.15 ppm.  <u>Upper range</u>: 0.15 ppm to 0.25 ppm.</p> <p><b>More stringent than EPA</b> – Equivalence testing in at least two emission ranges required for all TPCs or subcontract labs that use a small chamber for certification testing.</p> <p>CARB ATCM requires annual equivalence testing for each laboratory’s secondary test method, but does not require equivalence testing for each identical small chamber.</p>	<p><b>More stringent than CARB</b> – Emission ranges:</p> <p><u>Low range</u>: less than or equal to 0.05 ppm.  <u>Intermediate range</u>: greater than 0.05 ppm up to 0.15 ppm.  <u>Upper range</u>: greater than 0.15 ppm.</p> <p>Allows TPC or subcontract lab to be equivalent in only the low emission range if the TPC only plans to certify HWPW products. TPC’s certification work will be restricted to certifying HWPW products.</p> <p>Similar requirements.</p>
Composite wood products used in manufactured housing (mobile homes)	<p>Authority of U.S. Dept. of Housing and Urban Development (HUD) over manufactured homes preempted CARB from regulating emissions of hardwood plywood and particleboard.</p> <ul style="list-style-type: none"> <li>• HUD has less stringent emission standards for hardwood plywood and particleboard.</li> <li>• MDF in manufactured homes is not regulated by HUD and must comply with CARB ATCM.</li> </ul>	<p>Federal Formaldehyde Act of 2010 requires HUD to adopt EPA’s formaldehyde emission standards for all three regulated products in manufactured homes within 180 days of the release of EPA’s final regulation.</p> <ul style="list-style-type: none"> <li>• In March 2019, HUD proposed to adopt the TSCA Title VI formaldehyde standards.</li> </ul>
Import certification	Not required.	<p><b>More stringent than CARB</b> – As of March 22, 2019, import certification through the U.S. Customs and Border Protection’s Automated Commercial Environment is required for all non-domestic composite wood products and finished goods being imported into the U.S.</p>