

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.	<p>TSCA Title VI regulation became effective on May 22, 2017; compliance date (manufacture-by date) for emission standards is June 1, 2018.</p> <ul style="list-style-type: none"> • 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. • Composite wood panels produced domestically or imported into the U.S. prior to

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
		<p>June 1, 2018, may be sold or used to make finished goods until supplies are depleted.</p> <ul style="list-style-type: none"> • Technical amendments became effective on August 21, 2019. • Additional amendments became effective on February 21, 2023.
Authority for regulation	California Airborne Toxic Control Measure, California Health & Safety Code §§ 39650-39675 (Cal. Code Reg., title 17, §§ 93120 – 93120.12).	Federal Toxic Substances Control Act, 15 U.S.C., sec. 2697 (TSCA Title VI; Code Fed. Reg., title 40, §§ 770.1-770.99).
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"> • Requires use of composite wood products that comply with emission standards in all finished goods. 	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.	More stringent than CARB - three years.
Manufacturers (i.e., panel producers)	Compliance with Phase 2 formaldehyde emission standards must be verified by a CARB-approved third-party certifier (TPC). Manufacturers must comply with quality assurance testing requirements.	Similar requirements. Compliance with TSCA Title VI formaldehyde emission standards must be verified by an EPA-recognized TPC.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<p>Note: If CARB requirements are more stringent than those required by TSCA Title VI (e.g., for quality control testing – see below), 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>Note: Compliance with CARB’s more stringent requirements does not invalidate the TSCA Title VI certification issued by an EPA-recognized TPC.</p>
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>Note: 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"> • <u>Panels</u> - Information required for label on panel (or bundles of panels): <ul style="list-style-type: none"> ➤ Name of panel producer. ➤ Product lot or batch number. ➤ Compliance level (Phase 2, NAF [made with no-added formaldehyde resin], or ULEF [made with ultra-low-emitting formaldehyde resin]). 	<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> <p>Note: Panels imported or transported for testing purposes must be labeled “for TSCA Title VI testing only, not for sale in the U.S.”</p> <ul style="list-style-type: none"> • <u>Panels</u> - Information required for label on panel (or bundles of panels): <ul style="list-style-type: none"> ➤ Name of panel producer. ➤ Product lot number. ➤ Compliance level (TSCA Title VI or NAF/ULEF). ➤ EPA TSCA Title VI TPC number. ➤ NAF/ULEF panels require EPA TSCA Title VI TPC number.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<ul style="list-style-type: none"> ➤ CARB TPC number (not required for NAF/ULEF panel producers exempted from third party certification). • <u>Finished goods</u> - Information required for label on finished good (or box that contains finished good): <ul style="list-style-type: none"> ➤ Fabricator name. ➤ Production date (month and year). ➤ Compliance level (Phase 2 or NAF/ULEF). 	<ul style="list-style-type: none"> • <u>Finished goods</u> - Information required for label on finished good (or box that contains finished good): <ul style="list-style-type: none"> ➤ Fabricator name. ➤ Production date (month/year). ➤ 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).
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).	More stringent than CARB - 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	More stringent than EPA - 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.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
Fabricators of wood-veneered laminated products (e.g., tabletops, cabinet doors)	Requires use of CARB Phase 2 compliant platform (core) material.	Requires use of TSCA Title VI compliant platform (core) material. More stringent than CARB - 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 producers; exempt from testing and certification requirement based on use of NAF or phenol formaldehyde (PF) resin (verified by recordkeeping); record keeping required to show basis of exemption. 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.)
Third-party certification	Required for all panel producers. <ul style="list-style-type: none"> Third-party certifiers (TPCs) must be approved by CARB; TPCs must demonstrate evidence of product certification accreditation, qualifications to verify laboratories and wood products, and to train/supervise inspectors; re-approval required every two years (CARB currently has over 30 approved TPCs located throughout the world). 	Requires CARB-approved TPCs to apply to EPA before they can certify under TSCA Title VI. <ul style="list-style-type: none"> TPCs must be accredited by EPA-approved product and laboratory accreditation bodies (ABs) to ISO/IEC 17065 for product certification and ISO/IEC 17025 for laboratory testing before being recognized by EPA, in addition to meeting other TSCA Title VI requirements.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<ul style="list-style-type: none"> • TPCs must participate in inter-laboratory comparisons. • TPCs must submit annual reports to CARB. • Third-party certification is limited to panel producers and does not include fabricators of finished goods. • CARB guidance allows remote inspections in the event it is unsafe to travel to a panel producer for an inspection. <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>	<ul style="list-style-type: none"> • TPCs must participate in inter-laboratory comparisons organized by CARB or EPA. • 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). • More stringent than CARB: Remote inspections are allowed in the event of unsafe conditions in the area of a panel producer. TPCs must have proof of the unsafe conditions in order to support the remote inspection. <p>Same as CARB.</p>
Exemption from third-party certification based on use of no-added formaldehyde (NAF) or ultra-low-emitting formaldehyde (ULEF) resins	<p>Panel producers must work with a TPC to conduct testing and apply to a TPC for approval to be granted exemption from TPC-oversight for two years (CARB turned reviews over to TPCs as of August 2023).</p> <ul style="list-style-type: none"> • Panel producers must apply for re-approval every two years. 	<p>Panel producers seeking exemption must apply to CARB or their EPA TSCA Title VI TPC for approval to be granted exemption from TPC-oversight for two years.</p> <ul style="list-style-type: none"> • Panel producers must apply for re-approval every two years. • NAF/ULEF panels must be labeled as specified in TSCA Title VI, including panel producer’s TSCA Title VI TPC number. • 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.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<ul style="list-style-type: none"> • <u>NAF</u> - application for exemption from TPC oversight requires three months of quality control (QC) data and one TPC test (primary or secondary test method); 90 percent of QC data and 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. • <u>ULEF</u> - same requirements as NAF, but requires six months of QC data and two TPC tests. 	<ul style="list-style-type: none"> • 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. • <u>NAF</u> - Same as CARB. • <u>ULEF</u> - Same as CARB.
Domestic agents	Not required.	More stringent than CARB - 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	Hardwood plywood: <ul style="list-style-type: none"> • More stringent than EPA - Production of less than 200,000 square feet per week: at least <u>one QC emission test per week</u> of production for each product type and product line. • Production of 200,000 – 400,000 square feet per week: at least <u>two QC tests per week.</u> 	Hardwood plywood: <ul style="list-style-type: none"> • Production of less than 100,000 square feet per month: as few as <u>one QC emission test per month.</u> • Production of 100,000 – 200,000 square feet per week: same as CARB. Same as CARB.

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<ul style="list-style-type: none"> Production of greater than 400,000 square feet per week: at least four QC tests per week. <p>PB and MDF:</p> <ul style="list-style-type: none"> For each 8 or 12-hour shift of operation: at least one QC test. <p>QC test methods.</p> <ul style="list-style-type: none"> CARB's ATCM specified two QC test methods. CARB has approved five alternative QC test methods (listed on CARB's composite wood products webpage under the heading of "Test Methods"). 	<p>Same as CARB.</p> <p>Same as CARB.</p> <p>Same as CARB.</p>
Development of correlation values	<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"> Correlation is used in establishing a quality control limit for each product type and production line. 	<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"> Similar requirements. A new correlation is required to be developed whenever there is a significant change in equipment or procedures, or if the correlation is no longer considered valid.
Equivalence for secondary test method	<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>Similar requirements.</p>

Element/ Requirement	CARB ATCM	EPA TSCA Title VI
	<p>More stringent than EPA – Equivalence between secondary test method and primary test method must be established by annual comparison.</p> <p>Equivalence testing consists of five comparison tests in at least two emission ranges; required for all TPCs or subcontract labs that use a small chamber for certification testing.</p> <p>Emission ranges: <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>CARB ATCM does not require equivalence testing for each identical small chamber.</p>	<p>After three successful annual equivalence demonstrations, equivalence testing only required every two years.</p> <p>Similar requirements. Additionally 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>Emission ranges: <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>Similar requirements.</p>
Composite wood products used in manufactured housing (mobile homes)	Authority of U.S. Dept. of Housing and Urban Development (HUD) preempts CARB from regulating composite wood products in manufactured homes.	<p>Federal Formaldehyde Act of 2010 required 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"> • In March 2020, HUD adopted the TSCA Title VI formaldehyde standards.
Import certification	Not required.	<p>More stringent than CARB – 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>