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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 770

[EPA-HQ-OPPT-2017-0245; FRL-12941-02-OCSPP]

RIN 2070-AL36

Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is publishing a final rule to update the incorporation by reference of several voluntary consensus standards in the Agency's formaldehyde standards for composite wood products regulations under the Toxic Substances Control Act (TSCA) due to the standards having been updated or superseded by the issuing organizations. These new standards primarily update test methods and product standards concerning composite wood products that use formaldehyde. EPA is also conforming these updated standards in the scope and definitional sections in the final rule and incorporating by reference a new small scale quality control chamber test method, similar to current methods already incorporated by reference. EPA is also removing one standard that was previously incorporated by reference to avoid redundancy, given that another identical, internationally recognized version of the standard is already incorporated by reference in this rule.

DATES: This final rule is effective on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The incorporation by reference of certain material listed in the rule is approved by the Director of the Federal Register as of **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**. The incorporation by reference of certain other material listed in the rule was approved by the Director of the Federal Register as of February 10, 2017, February 7, 2018, August 21, 2019, and

March 23, 2023.

ADDRESSES: The docket for this action is identified by docket identification (ID) number EPA-HQ-OPPT-2017-0245, using the Federal eRulemaking Portal at *https://www.regulations.gov*. Additional instructions on visiting the docket, along with more information about dockets generally, is available at *https://www.epa.gov/dockets.*

FOR FURTHER INFORMATION CONTACT: *For technical information contact*: Maxim Pohl, Existing Chemicals Risk Management Division (Mail Code 5133G), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001; telephone number: (202) 566-2827; email address: *pohl.maxim@epa.gov.*

For general information contact: The TSCA Assistance Information Service Hotline, Goodwill Vision Enterprises, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (800) 471-7127 or (202) 554-1404; email address: *TSCA-Hotline@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. Executive Summary

A. *Does this action apply to me?*

You may be affected by this final rule if you manufacture (including import), sell, supply, or offer for sale in the United States any of the following: hardwood plywood, medium-density fiberboard, particleboard, and/or products containing these composite wood materials. You may also be affected by this final rule if you test or work with certification firms that certify such materials. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather it provides a guide to help readers determine whether this document applies to them. Potentially affected entities may include:

- Veneer, plywood, and engineered wood product manufacturing (NAICS code 3212).
- Manufactured home (mobile home) manufacturing (NAICS code 321991).
- Prefabricated wood building manufacturing (NAICS code 321992).

• Furniture and related product manufacturing (NAICS code 337).

• Furniture merchant wholesalers (NAICS code 42321).

• Lumber, plywood, millwork, and wood panel merchant wholesalers (NAICS code 42331).

• Other construction material merchant wholesalers (NAICS code 423390) (*e.g.*, merchant wholesale distributors of manufactured homes (*i.e.*, mobile homes) and/or prefabricated buildings).

• Furniture stores (NAICS code 4421).

• Building material and supplies dealers (NAICS code 4441).

• Manufactured (mobile) home dealers (NAICS code 45393).

• Motor home manufacturing (NAICS code 336213).

• Travel trailer and camper manufacturing (NAICS code 336214).

• Recreational vehicle (RV) dealers (NAICS code 441210).

• Recreational vehicle merchant wholesalers (NAICS code 423110).

• Engineering services (NAICS code 541330).

• Testing laboratories (NAICS code 541380).

• Administrative management and general management consulting services (NAICS code 541611).

• All other professional, scientific, and technical services (NAICS code 541990).

• All other support services (NAICS code 561990).

• Business associations (NAICS code 813910).

• Professional organizations (NAICS code 813920).

If you have any questions regarding the applicability of this action, please consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

B. *What is the Agency's authority for taking this action?*

EPA is publishing this final rule pursuant to the authority in section 601 of TSCA, 15

U.S.C. 2697, relating to formaldehyde emission standards for composite wood products.

C. *What action is the Agency taking?*

The Agency is issuing this final rule to take action on a recent Notice of Proposed Rulemaking (91 FR 6161) issued on February 11, 2026, including by addressing the comments received on the proposal.

The Agency is taking final action on the following:

1. *Update Incorporation-By-Reference (IBR) for Certain Voluntary Consensus Standards.*

EPA is finalizing an update to the Incorporation-By-Reference (IBR) for certain voluntary consensus standards in 40 CFR 770.99 to reflect the most current standards issued by the relevant standards organizations. The relevant standards organizations updated these standards after EPA incorporated them in 40 CFR 770.99. The final rule will require regulated entities to adhere to the updated editions of the voluntary consensus standards when complying with the requirements of 40 CFR part 770. During the public comment period for the proposed rule, EPA received eight comments in support of updating these standards. These amendments are further explained in Unit II.B.

2. *Addition of ISO 12460-2:2024(en) as an Alternative Quality Control Test Method.*

EPA is also finalizing the incorporation by reference of an additional small scale quality control chamber test method, ISO 12460-2:2024(en), in 40 CFR 770.99. This new standard will provide regulated entities with an additional quality control test method to choose from in 40 CFR 770.20(b). EPA received eight comments on the proposed rule in support of this standard's inclusion. This new standard is further explained in Unit II.B.

3. *Removal of British Standards Institute Standard BS EN ISO 12460-3.*

The proposed rule published in February 2026 included an update for British Standards Institute (BSI) standard BS EN ISO 12460-3:2023, as well as a request for comment on whether this standard should be retained in the final rule, given that an identical, international version

(ISO 12460-3:2023) was also proposed for incorporation into the rule. EPA received three comments on the proposed rule supporting the removal of BS EN ISO 12460-3 from the final rule. To avoid redundancy and potential confusion for stakeholders, EPA is no longer incorporating the updated standard BS EN ISO 12460-3:2023 and is removing the standard BS EN ISO 12460-3:2020 from 40 CFR 770.20(b)(1)(iii) and 40 CFR 770.99. This amendment is further explained in Unit II.B.

4. *Conform Voluntary Consensus Standards in Scope and Definitions*

As a result of the final list of updated standards in Unit II.B., EPA is finalizing an update to 40 CFR 770.1 and 770.3 to reflect the current standards that are incorporated by reference in 40 CFR 770.99. EPA received eight comments on the proposed rule in support of these updates to reflect current standards which are in use.

D. *Why is the Agency taking this action?*

The Agency is taking final action to update the incorporation by reference for several voluntary consensus standards at 40 CFR 770.99 to their current editions to address outdated, superseded, and withdrawn standards that have been updated between 2022 and 2024. These updates are needed because several of the standards in 40 CFR 770.99 are outdated. EPA is also taking final action to conform these voluntary consensus standards in the scope and definitional sections of 40 CFR part 770 to reflect the current editions that must be used by regulated entities. EPA believes that this action is warranted to facilitate regulated entities using the most up to date voluntary consensus standards to comply with the regulation at 40 CFR part 770. EPA is also taking final action to incorporate by reference at 40 CFR 770.99 an additional small scale quality control chamber test method, ISO 12460-2:2024(en), to provide stakeholders with an additional option for quality control testing. EPA is also no longer incorporating the updated BSI standard BS EN ISO 12460-3:2023 and is removing the BSI standard BS EN ISO 12460-3:2020 from the final rule because an identical, international version (ISO 12460-3:2023) is being updated with this final action. EPA believes this is warranted because having duplicative standards is

redundant, offers no technical value to the program, and has the potential to create confusion for the regulated community.

E. *What are the incremental economic impacts?*

EPA anticipates no additional costs to stakeholders associated with this final rule for updated standards. This is a routine action that updates outdated voluntary consensus standards incorporated by reference at 40 CFR part 770, and includes a new, optional quality control test method. Removal of the standard BS EN ISO 12460-3:2020 is not anticipated to have any economic impact, given that the test method it describes is still available to stakeholders through ISO 12460-3:2023.

II. Background

A. *Regulatory Overview*

1. *Formaldehyde Emission Standards for Composite Wood Products.*

The Formaldehyde Standards for Composite Wood Products Act of 2010 (Pub. L. 111-199, 124 Stat. 1359) created Title VI of TSCA (15 U.S.C. 2697), established emission standards for formaldehyde from composite wood products, and directed EPA to implement and enforce a number of provisions covering composite wood products. On December 12, 2016, EPA published a final rule (2016 final rule) (Ref. 1) to reduce exposure to formaldehyde emissions from certain wood products produced domestically or imported into the United States. EPA worked with the California Air Resource Board (CARB) to help align the 2016 final rule with the Airborne Toxics Control Measure (ATCM) (Ref. 2) to the extent EPA deemed appropriate and practical considering TSCA Title VI. By including provisions for laminated products, product-testing requirements, labeling, recordkeeping, and import certification, the 2016 final rule requires that hardwood plywood, medium-density fiberboard, and particleboard products sold, supplied, offered for sale, imported to, or manufactured in the United States be in compliance with the emission standards. The 2016 final rule also established a third-party certification program for laboratory testing and oversight of formaldehyde emissions from

manufactured and/or imported composite wood products.

2. *2018 Voluntary Consensus Standards Amendment.*

On February 7, 2018, EPA published a final rule (Ref. 3) to update several voluntary consensus standards incorporated by reference at 40 CFR 770.99. These updates applied to emission testing methods and regulated composite wood product construction characteristics. Several of the organizations that develop voluntary consensus standards (*i.e.*, technical specifications for products or processes developed by standard-setting bodies) had updated, superseded, and/or withdrawn their standards through the normal course of business to take into account new information, technology, and methodologies.

3. *2019 Technical Issues Amendment.*

On August 21, 2019, EPA amended 40 CFR part 770 via a final rule (2019 final rule) (Ref. 4) to address certain technical issues. The 2019 final rule:

• Further aligned testing requirements with the CARB ATCM;

• Clarified provisions addressing non-complying lots and how those provisions apply to fabricators, importers, retailers, and distributors who are notified by panel producers that composite wood products they were supplied are found to be non-compliant after those composite wood products have been further fabricated into component parts or finished goods;

• Clarified that regulated composite wood products and finished goods containing composite wood products must be labeled at the point of manufacture or fabrication, and if imported, the label must be applied to the products as a condition of importation;

• Addressed TSCA Title VI "manufactured-by" date issues; and

• Updated two voluntary consensus standards that were incorporated by reference in 40 CFR 770.99.

4. *2023 Voluntary Consensus Standards Amendment.*

On February 21, 2023, EPA published a final rule (2023 final rule) (Ref. 5) that amended 40 CFR part 770 to, among other things:

• Update the incorporation by reference for ten voluntary consensus standards to reflect the current editions that are in use by regulated entities and industry stakeholders. These updates were needed to ensure continued consistency with the standards adopted and used by industry.

• Allow for remote inspections in the event of unsafe conditions that would prevent a third-party certifier (TPC) from traveling in-person to the area. During the COVID-19 public health emergency, EPA provided temporary flexibility to allow TPCs to conduct remote inspections to satisfy the requirements of the rule. EPA made this flexibility permanent and allowed TPCs to conduct the required initial on-site inspection or quarterly inspections and sample collections remotely when in-person, on-site inspections are temporarily infeasible because of unsafe conditions.

• Include certain technical corrections and updates to create additional flexibilities for the third-party certification process, as well as clarifying language as it relates to the production of wood products. Those corrections better aligned EPA's rule with the CARB requirements.

B. *Final Rule Amendments*

1. *Voluntary consensus standards IBR update.*

a. *IBR Update.*

EPA is taking final action to update the IBR of certain voluntary consensus standards in 40 CFR 770.99 to reflect the most recent editions of the following standards assembled by the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the International Organization for Standardization (ISO), and the National Institute of Standards and Technology (NIST):

i. *Product Standard for Structural Glued Laminated Timber (ANSI A190.1-2022).*

This standard was initiated by the Engineered Wood Association (APA) and approved through ANSI. The ANSI standard details the specific requirements for production, inspection, testing and certification of structural glued laminated timber. The standard also describes a quality control system for the laminator, which covers plant qualification, daily quality control,

product marking, and the functions of an accredited inspection agency. ANSI last updated this standard on February 17, 2022 (Ref. 6). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from ANSI A190.1-2017 to ANSI A190.1-2022.

ii. *Standard Test Method for Determining Formaldehyde Levels from Wood Product Using a Desiccator (ASTM D5582-22).*

This standard was issued by ASTM and identifies procedures for testing formaldehyde emission potential from wood products by measuring airborne formaldehyde after samples of a specified surface area are placed in a small distilled water reservoir within a closed desiccator for 2 hours. The ASTM standard was last updated in August 2022 (Ref. 7). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from ASTM D5582-14 to ASTM D5582-22.

iii. *Standard Test Method for Determining Formaldehyde Concentrations in Air from Wood Products Using a Small-Scale Chamber (ASTM D6007-22).*

This standard was issued by ASTM and describes the procedure for using a small-scale chamber test method to measure formaldehyde concentrations in air emitted by wood product test specimens under defined test conditions of temperature and relative humidity. Results from the small-scale method are intended to be comparable to results obtained from testing larger samples using the large chamber test method, described in ASTM E1333. This ASTM standard was last updated in August 2022 (Ref. 8). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from ASTM D6007-14 to ASTM D6007-22.

iv. *Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber (ASTM E1333-22).*

This standard was issued by ASTM and describes the procedure for using a large chamber test method to measure formaldehyde concentration in air and emission rate from wood

products under conditions designed to simulate product use, while maintaining specific test conditions of temperature and relative humidity. The standard was last updated in August 2022 (Ref. 9). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from ASTM E1333-14 to ASTM E1333-22.

v. *Wood-based Panels – Determination of Formaldehyde Release – Part 3: Gas Analysis Method (ISO 12460-3:2023(E)).*

This standard was approved through ISO and describes a procedure for determination of accelerated formaldehyde release from wood-based panels. ISO 12460-3:2023(E) is identical to BS EN ISO 12460-3:2023, which is no longer included in this update and is being removed from 40 CFR 770.99. This version, ISO 12460-3:2023(E), was incorporated to avoid potential confusion by regulated stakeholders and allow manufacturers to use a single standard irrespective of their country. The standard was last updated in September 2023 (Ref. 10). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from ISO 12460-3:2020(E) to ISO 12460-3:2023(E).

vi. *Voluntary Product Standard PS 1-22, Structural Plywood (PS 1-22).*

This standard was issued by NIST and describes the principal types and grades of structural plywood, covering the wood species, veneer grading, adhesive bonds, panel construction and workmanship, dimensions and tolerances, marking, moisture content and packaging of structural plywood intended for construction and industrial uses. Test methods to determine compliance and a glossary of trade terms and definitions are included, as is a quality certification program involving inspection, sampling, and testing of products identified as complying with this standard by qualified testing agencies. The NIST standard was last updated on October 2, 2023 (Ref. 11). EPA is taking final action to update the version of the standard incorporated by reference in 40 CFR 770.99 from PS 1-19 to PS 1-22.

b. *Addition of ISO 12460-2:2024(en) as an Alternative Quality Control Test Method.*

EPA is taking final action to add ISO 12460-2:2024(en), Wood-based panels –

Determination of Formaldehyde Release – Part 2: Small-scale Chamber Method (Ref. 12), as a quality control test method in 40 CFR 770.20(b)(1) and to IBR the standard in 40 CFR 770.99. This standard was approved through ISO and describes the procedure for using a small-scale chamber test method to test formaldehyde emissions from wood products under defined test conditions of temperature, relative humidity, loading and air exchange rate by measuring the concentrations of formaldehyde in air from samples of a specified surface area. This standard is a small scale quality control chamber test method that EPA is taking final action to incorporate by reference as an allowable alternative quality control test method, due to its similarity to other standards currently incorporated by reference for quality control methods, and to allow regulated entities to make use of the wider range of analytical methods the standard allows, such as laser absorption spectroscopy.

Industry has requested including the latest testing methodology which allows for greater industry flexibility in choosing quality control methods that best fit their circumstances. Including this additional standard also aligns with the CARB ATCM, which recently incorporated ISO 12460-2:2024(en) as a valid small scale quality control chamber test method. EPA believes that this action is warranted to facilitate regulated entities using the most up-to-date voluntary consensus standards to comply with the regulation at 40 CFR part 770 as well as align with current CARB requirements. Based on its similarity to other standards currently incorporated by reference for quality control methods, requests from industry to include the latest testing methodology, and support from public comments, EPA is taking final action to add this new ISO standard as a quality control method in 40 CFR 770.20(b)(1) and to incorporate it by reference in 40 CFR 770.99.

EPA will initiate additional notice-and-comment rulemaking when necessary to reflect any future changes to voluntary consensus standards incorporated by reference in 40 CFR 770.99.

c. *Removal of British Standards Institute Standard BS EN ISO 12460-3.*

Because BS EN ISO 12460-3 and ISO 12460-3 are identical standards published by different standards development organizations, EPA is taking final action to consolidate 40 CFR 770.99 to only include the international version, ISO 12460-3:2023. This final rule removes the standard BS EN ISO 12460-3:2020 from the list of allowable quality control methods in 40 CFR 770.20(b)(1)(iii) and the list of standards approved for IBR in 40 CFR 770.99. The exact same procedure for determination of accelerated formaldehyde release from wood-based panels described by BS EN ISO 12460-3 is still available to stakeholders through ISO 12460-3:2023.

d. *Availability.*

Copies of the standards identified in these sections II.B.1.a. and II.B.1.b. of **SUPPLEMENTARY INFORMATION** are available for inspection at the OPPT Docket in the EPA Docket Center (EPA/DC) at Rm. 3334, EPA, West Bldg., 1301 Constitution Ave. NW., Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number of the EPA/DC Public Reading room is (202) 566-1744, and the telephone number for the OPPT Docket is (202) 566-0280. If you have a disability and the format of any material on an EPA web page interferes with your ability to access the information, please contact EPA's Rehabilitation Act Section 508 (29 U.S.C. 794d) Program at *https://www.epa.gov/accessibility/forms/contact-us-about-section-508-accessibility* or via email at *section508@epa.gov*. To enable us to respond in a manner most helpful to you, please indicate the nature of the accessibility issue, the web address of the requested material, your preferred format in which you want to receive the material (electronic format (ASCII, etc.), standard print, large print, etc.), and your contact information. Additionally, each of these standards can be obtained directly from the publisher or standards development organization, as described in the following paragraphs.

i. *ANSI A190.1 2022.*

Electronic copies of these materials may be obtained from APA at no cost at: *https://www.apawood.org/*. Copies of this standard may also be obtained from APA – The

Engineered Wood Association. 7011 South 19th Street, Tacoma, WA 98466, or by calling (253) 565-6600.

ii. *ASTM D5582-22, ASTM D6007-22 and ASTM E1333-22.*

Copies of these materials may be obtained from ASTM International, 100 Barr Harbor Dr., P.O. Box C700, West Conshohocken, PA 19428-2959, or by calling (610) 832-9585, or at *http://www.astm.org*. ASTM standards referenced in this rule are also available for public review in read-only format in the ASTM Reading Room at *https://www.astm.org/standards-and-solutions/standards-and-publications/reading-room*.

iii. *ISO 12460-3:2023(E) and ISO 12460-2:2024(en).*

Copies of these materials may be obtained from the International Organization for Standardization, 1, ch. de la Voie- Creuse, CP 56, CH-1211, Geneve 20, Switzerland, or by calling +41-22-749-01-11, or at *http://www.iso.org*. ISO standards referenced in this rule are also available for public review in read-only format on the ANSI Standards Incorporated by Reference Portal at *https://ibr.ansi.org/*.

iv. *Voluntary Product Standard PS 1-22.*

Electronic copies of these materials may be obtained from the NIST at no cost at: *http://www.nist.gov*. You may purchase printed copies of these materials from NIST by calling (800) 553-6847. You must have an order number to purchase a NIST publication. Order numbers may be obtained from the Public Inquiries Unit at (301) 975-NIST. Mailing address: Public Inquiries Unit, NIST, 100 Bureau Dr., Stop 1070, Gaithersburg, MD 20899-1070. In addition, you may also purchase printed copies of NIST publications from the U.S. Government Printing Office (GPO) if you have a GPO stock number. GPO orders may be mailed to: U.S. Government Printing Office, P.O. Box 979050, St. Louis, MO 63197-9000, placed by telephone at (866) 512-1800 (DC Area only: (202) 512-1800), or faxed to (202) 512-2104.

2. *Technical correction(s).*

To conform to the list of updated standards and the addition of one new standard listed in

in sections II.B.1.a. and II.B.1.b. of **SUPPLEMENTARY INFORMATION**, EPA is taking final action to update 40 CFR 770.1 and 770.3 to reflect the standards that EPA is incorporating by reference in 40 CFR 770.99.

C. *Rationale for Rule Changes*

EPA is taking final action to update the incorporation by reference of certain voluntary consensus standards in 40 CFR 770.99 that have been updated, superseded, or withdrawn by the issuing organizations. These new standards are needed to reflect the most recent editions of those standards issued by the relevant standards organizations. EPA is also taking final action with the addition of a new standard, ISO 12460-2:2024(en), to allow industry greater flexibility in choosing quality control methods that best fit their circumstances, such as laser absorption spectroscopy. This additional standard also aligns with the CARB ATCM, which recently incorporated ISO 12460-2:2024(en) as a valid small scale quality control chamber test method. EPA believes that this action is warranted to facilitate regulated entities using the most up-to-date voluntary consensus standards to comply with the regulation at 40 CFR part 770 as well as align with current CARB requirements. EPA is also taking final action to remove the BSI standard BS EN ISO 12460-3:2020 as a standard approved for IBR in 40 CFR 770.99, and is no longer incorporating the updated version BS EN ISO 12460-3:2023 to avoid redundancy and potential confusion for stakeholders, given an identical, international version of the standard (ISO 12460-3:2023) is also incorporated by reference in this rule.

III. Summary of Public Comments

EPA received nine public comments in total during the 30-day public comment period for the proposed rule (91 FR 6161) and carefully considered each submission. One commenter (EPA-HQ-OPPT-2017-0245-0058) did not raise a substantive issue relevant to the proposed rule.

The remaining eight comments were directly relevant to the proposed rule. All eight relevant commenters supported the proposed updates to the standards and the inclusion of the new quality control method, ISO 12460-2:2024(en).

Three commenters (EPA-HQ-OPPT-2017-0245-0056; EPA-HQ-OPPT-2017-0245-0061; EPA-HQ-OPPT-2017-0245-0064) supported EPA removing the British Standards Institute standard BS EN ISO 12460-3 from the final rule and confirmed that retaining this standard would be redundant, given that an identical, international version (ISO 12460-3:2023) is also incorporated into the rule. EPA has revised the rule to remove BS EN ISO 12460-3:2020 from 40 CFR 770.20(b)(1)(iii) and 40 CFR 770.99.

Three commenters (EPA-HQ-OPPT-2017-0245-0056; EPA-HQ-OPPT-2017-0245-0059; EPA-HQ-OPPT-2017-0245-0064) requested that EPA define "significant change" as it is used in the TSCA Title VI rule, specifically in terms of what constitutes a significant change that would render an established equivalence or correlation between different test methods invalid, thus requiring a redemonstration of equivalence. This terminology is not new; the phrase "significant change" has appeared in 40 CFR 770.20(d) since the 2016 TSCA Title VI final rule and is not introduced by the updates in this action. Generally, a significant change may be any change in equipment, procedure, or the qualifications of testing personnel that a technically competent person would expect to alter the established statistical relationship between test methods. See, for example, the discussion of the topic in EPA's Frequent Questions for Regulated Stakeholders about Implementing the Formaldehyde Standards for Composite Wood Products Act at Question 2 and Question 5 under the section on "Starting-Up New Mills," available online at *https://www.epa.gov/formaldehyde/frequent-questions-regulated-stakeholders-about-implementing-formaldehyde-standards#newmills*. EPA will consider publishing additional examples of what may constitute a significant change at a future date.

Two commenters (EPA-HQ-OPPT-2017-0245-0056; EPA-HQ-OPPT-2017-0245-0059) requested that EPA address the timing expectation for transitioning to the new standards being updated or adopted with this rulemaking. Beyond the effective date of this final rule's amendments being 30 days after publication of this final rule, EPA is not establishing an additional transition period in this action because the updated editions incorporated by reference

are technically consistent with the previously referenced editions and are not expected to affect compliance determinations or implementation. The new standard being incorporated, ISO 12460-2:2024(en), introduces an optional method for quality control testing, and thus imposes no transitional burden on regulated entities. In future actions where EPA proposes to incorporate editions that introduce substantive changes that could affect implementation (e.g., procedures, calculations, or apparatus), the Agency intends to evaluate and, as appropriate, propose defined transition provisions to minimize disruption.

One commenter (EPA-HQ-OPPT-2017-0245-0056) requested that EPA clarify how the new standard ISO 12460-2:2024(en) fits within Quality Control Limit (QCL) and correlation requirements. ISO 12460-2:2024(en) can be used in the same manner that other quality control methods are used to conduct routine quality control testing, at a frequency specified in 40 CFR 770.20(b)(2), with results reported as specified in 40 CFR 770.20(b)(3). ISO 12460-2:2024(en) is subject to the same correlation demonstration requirements as all other quality control methods, as described in 40 CFR 770.20(d)(2). The same commenter requested that EPA clarify timing expectations for equivalence demonstrations, and that such demonstrations are a standing laboratory requirement supporting the use of ASTM D6007 for quarterly testing rather than a condition that could delay routine compliance activities. As specified in 40 CFR 770.20(c)(1), quarterly testing must be performed using ASTM E1333, or, with a showing of equivalence pursuant to 40 CFR 770.20(d), ASTM D6007. When utilizing ASTM D6007 for either quarterly testing or quality control testing (or another method listed in 40 CFR 770.20(b)(1) for quality control testing), equivalence or correlation demonstrations must be conducted at a frequency specified in 40 CFR 770.20(d). As also specified in 40 CFR 770.20(d), if the TPC laboratory's ASTM E1333 or equivalent ASTM D6007 test chamber is used for panel producer quality control testing, no correlation as determined in 40 CFR 770.20(d)(2) would be required.

Finally, the same commenter asked that EPA clarify documentation expectations for cluster and threshold approaches for demonstrating equivalence for quality control methods

listed in 40 CFR 770.20(b). As specified in 40 CFR 770.40(a)(2), records should be maintained of all ongoing quality control testing, and must include the date, the product type tested, the lot number that the tested material represents, the test method used, and the test results. As described in 40 CFR 770.20(b)(1), equivalence or correlation testing is a part of quality control testing. Records should demonstrate compliance with all required aspects of methods described in 40 CFR 770.20(d)(2), if utilized.

EPA thanks all the submitters for their comments related to this final rule. When necessary, EPA intends to reflect any future changes to voluntary consensus standards incorporated by reference in 40 CFR 770.99 through additional notice-and-comment rulemaking.

IV. References

The following is a list of the documents that are specifically referenced in this document. The docket includes these documents and other information considered by EPA, including documents that are referenced within the documents that are included in the docket, even if the referenced document is not physically located in the docket. For assistance in locating these other documents, please consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

1. EPA. Formaldehyde Emission Standards for Composite Wood Products. Final Rule. *Federal Register*. 81 FR 89674, December 12, 2016 (FRL-9949-90).

2. California Environmental Protection Agency Air Resources Board. Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products. Final Regulation Order. April 2008.

3. EPA. Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products. Final Rule. *Federal Register*. 83 FR 5340, February 7, 2018 (FRL-9972-68).

4. EPA. Technical Issues; Formaldehyde Emission Standards for Composite Wood Products. Final Rule. *Federal Register.* 84 FR 43517, August 21, 2019 (FRL-9994-47).

5. EPA. Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products. Final Rule. *Federal Register*. 88 FR 10468, February 21, 2023 (FRL-8452-01-OCSPP).

6. American National Standards Institute (ANSI). ANSI A190.1-2022, Product Standard for Structural Glued Laminated Timber.

7. American Society for Testing and Materials (ASTM). ASTM D5582-22, Standard Test Method for Determining Formaldehyde Levels from Wood Products Using a Desiccator.

8. ASTM. ASTM D6007-22, Standard Test Method for Determining Formaldehyde Concentrations in Air from Wood Products Using a Small-Scale Chamber.

9. ASTM. ASTM E1333-22, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber.

10. International Organization for Standardization (ISO). ISO 12460-3:2023(E), Wood-based Panels – Determination of Formaldehyde Release – Part 3: Gas Analysis Method.

11. National Institute of Standards and Technology (NIST). PS 1-22, Structural Plywood.

12. ISO. ISO 12460-2:2024(en), Wood-based panels – Determination of formaldehyde release Part 2: Small-scale chamber method.

V. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders*.

A. *Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review*

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011). Any changes made in response to Executive Order 12866 review have been documented in the docket.

B. *Executive Order 14192: Unleashing Prosperity Through Deregulation*

This action is considered an Executive Order 14192 (90 FR 9065, January 31, 2025) deregulatory action. This final rule provides burden reduction by updating the incorporation by reference of several voluntary consensus standards in TSCA Title VI due to certain standards having been updated or superseded by the issuing organizations, aligning requirements with current industry practices. To avoid redundancy and potential confusion for stakeholders, EPA is no longer incorporating the updated standard BS EN ISO 12460-3:2023 and is removing the standard BS EN ISO 12460-3:2020 from 40 CFR 770.20(b)(1)(iii) and 40 CFR 770.99. This amendment is further explained in Unit II.B. EPA is also taking final action with the addition of a new standard, ISO 12460-2:2024, to allow industry greater flexibility in choosing quality controls methods that best fit their circumstances, such as laser absorption spectroscopy. This deregulatory action removes redundancy, aligns requirements with current industry practices and eliminates duplicative or outdated standards.

C. *Paperwork Reduction Act (PRA)*

This action does not impose any new information collection burden under the PRA, 44 U.S.C. 3501 *et seq*. Burden is defined in 5 CFR 1320.3(b). This action does not create any new reporting or recordkeeping obligations. OMB previously approved the information collection activities contained in the existing regulations and assigned OMB control number 2070-0185.

D. *Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA, 5 U.S.C. 601 *et seq*. In making this determination, EPA concludes that the impact of concern for this action is any significant adverse economic impact on small entities, and the Agency is certifying that this action will not have a significant economic impact on a substantial number of small entities because it will impose no net burden on the small entities to the rule. The final rule updates the incorporation by reference of voluntary consensus standards in 40 CFR part 770 by adopting the most current versions of those standards, adding one new voluntary consensus standard as a quality control test method, and by

removing one duplicative, redundant standard. The updated versions of the standards are substantially similar to the previous versions. EPA expects that many small entities are already complying with the updated versions of the standards listed Unit II.B. This action allows these entities the flexibility to use the most up to date versions of the standards instead of using outdated versions that do not reflect industry best practice. This action also adds one new voluntary consensus standard as a quality control test method in 40 CFR 770.20(b)(1), which regulated entities may opt to use in lieu of the other approved quality control methods, thereby increasing regulatory flexibility. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

E. *Unfunded Mandates Reform Act (UMRA)*

This action does not contain an unfunded mandate of $100 million (in 1995 dollars and adjusted annually for inflation) or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments. As discussed in Unit V.D., the final rule will impose no net regulatory burdens on the private sector.

F. *Executive Order 13132: Federalism*

This action does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999) because it will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

G. *Executive Order 13175: Consultation and Coordination with Indian Tribal Governments*

This action does not have tribal implications as specified in Executive Order 13175 (65 FR 67249, November 9, 2000), because it will not have substantial direct effects on tribal governments, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes. Thus, E.O. 13175 does not apply to this action.

H. *Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks*

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997), as applying only to those regulatory actions that concern environmental health or safety risks that the Agency has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of Executive Order 13045. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk. Since this action does not concern human health, EPA's Policy on Children's Health also does not apply.

I. *Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. As explained in Unit II.B, this action updates the IBR of certain voluntary consensus standards in 40 CFR 770.99 to reflect the most recent editions of the standards assembled by relevant international standards bodies, incorporates an additional standard by reference to allow the use of an alternative quality control test method, removes one standard from the list of allowable quality control methods because it is identical to another allowable quality control method that is already incorporated by reference. As explained in Unit II.C, this action also implements conforming technical corrections.

J. *National Technology Transfer and Advancement Act (NTTAA)*

This action involves technical standards subject to consideration under NTTAA section 12(d), 15 U.S.C. 272. EPA has decided to use ANSI A190.1-2022, ASTM D5582-22, ASTM D6007-22, ASTM E1333-22, ISO 12460-3:2023(E), ISO 12460-2:2024(en) and PS 1-22. Additional information about these standards, including how to access them, is provided in Unit II.B.1. of **SUPPLEMENTARY INFORMATION**.

In addition, the following standards appear in the amendatory text of this document and have already been approved for the locations in which they appear, and the approval continues unchanged: ANSI A135.4-2012, ANSI A135.5-2012, ANSI A135.6-2012, ANSI A135.7-2012, ANSI/HPVA HP-1-2020, BS EN ISO 12460-5:2015, ISO/IEC 17011:2017(E), ISO/IEC 17020:2012(E), ISO/IEC 17025:2017(E), ISO/IEC 17065:2012(E), and PS 2-18.

K. *Congressional Review Act (CRA)*

This action is subject to the CRA, 5 U.S.C. 801 *et seq.,* and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 770

Environmental protection, Formaldehyde, Incorporation by reference, Reporting and recordkeeping requirements, Third-party certification, Toxic substances, Wood.

Dated: October 22, 2026.

Douglas M. Troutman,

Assistant Administrator, Office of Chemical Safety and Pollution Prevention.

Therefore, for the reasons set forth in the preamble, EPA amends 40 CFR part 770 as follows:

PART 770—FORMALDEHYDE STANDARDS FOR COMPOSITE WOOD PRODUCTS

1. The authority citation for part 770 continues to read as follows:

Authority: 15 U.S.C. 2697(d).

2. Amend § 770.1 by revising and republishing paragraphs (c)(3) and (7) to read as follows:

§ 770.1 Scope and applicability.

* * * * *

(c) * * *

(3) Structural plywood, as specified in PS 1-22 (incorporated by reference, see § 770.99).

* * * * *

(7) Glued laminated lumber, as specified in ANSI A190.1-2022, Standard for Wood Products—Structural Glued Laminated Timber (incorporated by reference, see § 770.99).

* * * * *

3. Amend § 770.3 by revising and republishing the definitions for “Hardboard”, “Hardwood plywood”, and “Quality control limit or QCL” to read as follows:

§ 770.3 Definitions

* * * * *

Hardboard means a composite panel composed of cellulosic fibers, consolidated under heat and pressure in a hot press by: A wet process; or a dry process that uses a phenolic resin, or a resin system in which there is no formaldehyde as part of the resin cross-linking structure; or a wet formed/dry pressed process; and that is commonly or commercially known, or sold, as hardboard, including any product conforming to one of the following ANSI standards: Basic Hardboard (ANSI A135.4-2012) (incorporated by reference, see § 770.99), Prefinished Hardboard Paneling (ANSI A135.5-2012) (incorporated by reference, see § 770.99), Engineered

Wood Siding (ANSI A135.6-2012) (incorporated by reference, see § 770.99), or Engineered Wood Trim (ANSI A135.7-2012) (incorporated by reference, see § 770.99). There is a rebuttable presumption that products emitting more than 0.06 ppm formaldehyde as measured by ASTM E1333-22 (incorporated by reference, see § 770.99) or ASTM D6007-22 (incorporated by reference, see § 770.99) are not hardboard.

Hardwood plywood means a hardwood or decorative panel that is intended for interior use and composed of (as determined under ANSI/HPVA HP-1-2020 (incorporated by reference, see § 770.99)) an assembly of layers or plies of veneer, joined by an adhesive with a lumber core, a particleboard core, a medium-density fiberboard core, a hardboard core, a veneer core, or any other special core or special back material. Hardwood plywood does not include military-specified plywood, curved plywood, or any plywood specified in PS 1-22 (incorporated by reference, see § 770.99), or PS 2-18 (incorporated by reference, see § 770.99). In addition, hardwood plywood includes laminated products except as provided at § 770.4.

* * * * *

Quality control limit or QCL means the value from the quality control method test that is the correlative equivalent to the applicable emission standard based on the ASTM E1333-22 method (incorporated by reference, see § 770.99) or, upon showing equivalence in accordance with § 770.20(d), the ASTM D6007-22 method (incorporated by reference, see § 770.99).

* * * * *

4. Amend § 770.7 by revising and republishing paragraphs (a)(5)(i)(D) and (F), (b)(5)(i) introductory text, (c)(1)(ii) and (v), (c)(2)(iv) and (viii), (c)(4)(i)(B), and (c)(4)(v)(C) to read as follows:

§ 770.7 Third-party certification.

(a) * * *

(5) * * *

(i) * * *

(D) A review of the approach that the TPC laboratory will use for establishing correlation or equivalence between ASTM E1333-22 and ASTM D6007-22, if used, (incorporated by reference, see § 770.99) or allowable formaldehyde test methods listed under § 770.20.

* * * * *

(F) A review of the accreditation credentials of the TPC laboratory, including a verification that the laboratory has been accredited to ISO/IEC 17025:2017(E) (incorporated by reference, see § 770.99) with a scope of accreditation to include this part—Formaldehyde Standards for Composite Wood Products and the formaldehyde test methods ASTM E1333-22 and ASTM D6007-22, if used, by an EPA TSCA Title VI Laboratory AB (incorporated by reference, see § 770.99).

* * * * *

(b) * * *

(5) * * *

(i) *Accreditation.* EPA TSCA Title VI Laboratory ABs must determine the accreditation eligibility, and accredit if appropriate, each TPC seeking recognition under the EPA TSCA Title VI Third-Party Certification Program by performing an assessment of each TPC. The assessment must include an on-site assessment by the EPA TSCA Title VI Laboratory AB to determine whether the laboratory meets the requirements of ISO/IEC 17025:2017(E) (incorporated by reference, see § 770.99), is in conformance with ISO/IEC 17020:2012(E) (incorporated by reference, see § 770.99) and the EPA TSCA Title VI TPC requirements under this part including the formaldehyde test methods ASTM E1333-22 and ASTM D6007-22 (incorporated by reference, see § 770.99), if used. In performing the on-site assessment, the EPA TSCA Title VI Laboratory AB must:

* * * * *

(c) * * *

(1) * * *

(ii) Be, or have a contract with a laboratory that is, accredited by an EPA TSCA Title VI Laboratory AB to ISO/IEC 17025:2017(E) (incorporated by reference, see § 770.99) with a scope of accreditation to include this part—Formaldehyde Standards for Composite Wood Products—and the formaldehyde test methods ASTM E1333-22 and ASTM D6007-22, if used (incorporated by reference, see § 770.99);

* * * * *

(v) Have demonstrated experience in performing or verifying formaldehyde emissions testing on composite wood products, including experience with test method ASTM E1333-22 and ASTM D6007-22, if used, (incorporated by reference, see § 770.99), and experience evaluating correlation between test methods. Applicant TPCs that have demonstrated experience with test method ASTM D6007-22 only, must be contracting testing with a laboratory that has a large chamber and demonstrate its experience with ASTM E1333-22.

* * * * *

(2) * * *

(iv) A copy of the TPC laboratory's certificate of accreditation from an EPA TSCA Title VI Laboratory AB to ISO/IEC 17025:2017(E) (incorporated by reference, see § 770.99) with a scope of accreditation to include this part—Formaldehyde Standards for Composite Wood Products—and the formaldehyde test methods ASTM E1333-22 and ASTM D6007-22 (incorporated by reference, see § 770.99), if used;

* * * * *

(viii) A description of the TPC's experience with test method ASTM E1333-22 and/or ASTM D6007-22, if used, (incorporated by reference, see § 770.99), and experience evaluating correlation between test methods. Applicant TPCs that have experience with test method ASTM D6007-22 only, must be contracting testing with a laboratory that has a large chamber and describe its experience with ASTM E1333-22; and

* * * * *

(4) * * *

(i) * * *

(B) Verify each panel producer's quality control test results compared with test results from ASTM E1333-22 and ASTM D6007-22, if used, (incorporated by reference, see § 770.99) by having the TPC laboratory conduct quarterly tests and evaluate test method equivalence and correlation as required under § 770.20;

* * * * *

(v) * * *

(C) Notification of a panel producer exceeding its established QCL for three consecutive quality control tests within 72 hours of the time that the TPC becomes aware of the third consecutive exceedance. The notice must include the product type, dates of the quality control tests that exceeded the QCL, quality control test results, ASTM E1333-22 (incorporated by reference, see § 770.99) or ASTM D6007-22 method (incorporated by reference, see § 770.99) correlative equivalent values in accordance with § 770.20(d), the established QCL value(s) and the quality control method used.

* * * * *

5. Amend § 770.10 by revising and republishing paragraph (b) introductory text to read as follows:

§ 770.10 Formaldehyde emission standards.

* * * * *

(b) The emission standards are based on test method ASTM E1333-22 (incorporated by reference, see § 770.99), and are as follows:

* * * * *

6. Amend § 770.15 by revising and republishing paragraphs (c)(1)(v) and (c)(2)(iii) to read as follows:

§ 770.15 Composite wood product certification.

* * * * *

(c) * * *

(1) * * *

(v) At least five tests conducted under the supervision of an EPA TSCA Title VI TPC pursuant to test method ASTM E1333-22 or ASTM D6007-22 (incorporated by reference, see § 770.99). Test results obtained by ASTM D6007-22 must include a showing of equivalence in accordance with § 770.20(d)(1);

* * * * *

(2) * * *

(iii) At least five tests conducted under the supervision of an EPA TSCA Title VI TPC pursuant to test method ASTM E1333-22 or ASTM D6007-22 (incorporated by reference, see § 770.99). Test results obtained by ASTM D6007-22 must include a showing of equivalence in accordance with § 770.20(d)(1);

* * * * *

7. Amend § 770.17 by revising and republishing paragraph (a)(3) to read as follows:

§ 770.17 No-added formaldehyde-based resins.

* * * * *

(a) * * *

(3) At least one test conducted under the supervision of an EPA TSCA Title VI TPC pursuant to test method ASTM E1333-22 or ASTM D6007-22 (incorporated by reference, see § 770.99). Test results obtained by ASTM D6007-22 must include a showing of equivalence in accordance with § 770.20(d)(1); and

* * * * *

8. Amend § 770.18 by revising and republishing paragraph (a)(3) to read as follows:

§ 770.18 Ultra low-emitting formaldehyde resins.

* * * * *

(a) * * *

(3) At least two tests conducted under the supervision of an EPA TSCA Title VI TPC pursuant to test method ASTM E1333-22 or ASTM D6007-22 (incorporated by reference, see § 770.99). Test results obtained by ASTM D6007-22 must include a showing of equivalence in accordance with § 770.20(d)(1); and

* * * * *

9. Amend § 770.20 by:

a. Revising and republishing paragraphs (b)(1)(i) through (iii);

b. Adding paragraph (b)(1)(viii); and

c. Revising and republishing paragraphs (c)(1), (c)(2)(iv), (d) introductory text, (d)(1) introductory text, (d)(1)(i) through (iii), (d)(2) introductory text, and (d)(2)(i).

The revisions and addition read as follows:

§ 770.20 Testing requirements.

* * * * *

(b) * * *

(1) * * *

(i) ASTM D6007-22 (incorporated by reference, see § 770.99).

(ii) ASTM D5582-22 (incorporated by reference, see § 770.99).

(iii) ISO 12460-3:2023(E) (incorporated by reference, see § 770.99).

* * * * *

(viii) ISO 12460-2:2024(en) (incorporated by reference, see § 770.99).

* * * * *

(c) * * *

(1) *Allowable methods.* Quarterly testing must be performed using ASTM E1333-22 (incorporated by reference, see § 770.99) or, with a showing of equivalence pursuant to paragraph (d) of this section, ASTM D6007-22 (incorporated by reference, see § 770.99).

* * * * *

(2) * * *

(iv) Test results may represent a single chamber value or, if using the ASTM D6007-22 apparatus, the average value of testing nine specimens representing evenly distributed portions of an entire panel. The nine specimens must be tested in groups of three specimens, resulting in three data points, which must be averaged to represent one test value for the panel those specimens represent.

* * * * *

(d) *Equivalence or correlation.* Equivalence between ASTM E1333-22 (incorporated by reference, see § 770.99) and ASTM D6007-22 (incorporated by reference, see § 770.99) must be demonstrated by EPA TSCA Title VI TPCs at least once each year or whenever there is a significant change in equipment, procedure, or the qualifications of testing personnel, or reason to believe that the equivalence is no longer valid. Equivalence may be demonstrated between several similar model or size and construction ASTM E1333-22 (incorporated by reference, see § 770.99) and ASTM D6007-22 (incorporated by reference, see § 770.99) apparatuses located in the same EPA TSCA Title VI TPC laboratory. Once equivalence has been established for three consecutive years, equivalence must be demonstrated every two years or whenever there is a significant change in equipment, procedure, or the qualifications of testing personnel. Correlation between ASTM E1333-22 (incorporated by reference, see § 770.99) or, upon a showing of equivalence in accordance with paragraph (d) of this section, ASTM D6007-22 (incorporated by reference, see § 770.99) and any other test method used for quality control testing must be demonstrated by EPA TSCA Title VI TPCs or panel producers, respectively, before the certification of composite wood products, and then whenever there is a significant change in equipment, procedure, the qualifications of testing personnel, or reason to believe that the correlation is no longer valid. Correlation may be established between several similar model or size and construction mill quality control test methods defined in paragraph (b)(1) of this section

located at any one physical mill quality control testing laboratory to the EPA TSCA Title VI TPC laboratory's ASTM E1333-22 (incorporated by reference, see § 770.99) and/or ASTM D6007-22 (incorporated by reference, see § 770.99) apparatus. If the TPC laboratory's ASTM E1333-22 or equivalent ASTM D6007-22 test chamber is used for panel producer quality control testing, no correlation as determined in paragraph (d)(2) of this section would be required. Equivalence and correlation sample selection should be conducted in accordance with paragraph (c)(2)(iv) of this section.

(1) *Equivalence between ASTM E1333-22 and ASTM D6007-22 when used by the TPC for quarterly testing.* Equivalence must be demonstrated for at least five comparison sample sets in each range tested by the TPC, which compare the results of the two methods. Equivalence must be demonstrated for any ranges listed in paragraph (d)(1)(iv) of this section that represent the formaldehyde emissions of composite wood products tested by the TPC.

(i) *Samples.* (A) For the ASTM E1333-22 method (incorporated by reference, see § 770.99), each comparison sample must consist of the result of testing panels, using the applicable loading ratios specified in the ASTM E1333-22 method (incorporated by reference, see § 770.99), from similar panels of the same product type tested by the ASTM D6007-22 method (incorporated by reference, see § 770.99).

(B) For the ASTM D6007-22 method (incorporated by reference, see § 770.99), each comparison sample shall consist of testing specimens representing portions of panels similar to the panels tested in the ASTM E1333-22 method (incorporated by reference, see § 770.99) and matched to their respective ASTM E1333-22 method (incorporated by reference, see § 770.99) comparison sample result. The ratio of air flow to sample surface area specified in ASTM D6007-22 (incorporated by reference, see § 770.99) must be used.

(C) The five comparison sample must consist of testing a minimum of five sample sets as measured by the ASTM E1333-22 method (incorporated by reference, see § 770.99).

(ii) *Average and standard deviation.* The arithmetic mean, $\overline{X}$, and standard deviation, S,

of the difference of all comparison sets must be calculated using Equations 1 and 2 to this paragraph (d)(1)(ii), where $\overline{X}$ = arithmetic mean; S = standard deviation; n = number of sets; D_i = difference between the ASTM E1333-22 and ASTM D6007-22 method (incorporated by reference, see § 770.99) values for the i th set; and i ranges from 1 to n.

Equation 1 to paragraph (d)(1)(ii) – Arithmetic mean

$$\overline{X} = \sum_{i=1}^{n} D_i/n$$

Equation 2 to paragraph (d)(1)(ii) – Standard deviation

$$S = \sqrt{\sum_{i=1}^{n} (D_i - \overline{X})^2/(n-1)}$$

(iii) *Equivalence determination.* The ASTM D6007-22 method (incorporated by reference, see § 770.99) is considered equivalent to the ASTM E1333-22 method (incorporated by reference, see § 770.99) if the following condition is met: $|\overline{X}| + 0.88S \leq C$

Where C is equal to:

0.026 for the lower range;

0.038 for the intermediate range; and

0.052 for the upper range.

* * * * *

(2) *Correlation between ASTM E-1333-22 (incorporated by reference, see § 770.99), or equivalent ASTM D6007-22 (incorporated by reference, see § 770.99), and any quality control test method.* Correlation must be demonstrated by establishing an acceptable correlation coefficient ("r" value) or following the threshold approach at paragraph (d)(2)(i)(B) of this section.

(i) *Correlation.* The correlation must be based on a minimum sample size of five data pairs and a simple linear regression (unless the threshold approach at paragraph (d)(2)(i)(B) of

this section is used) where the dependent variable (Y-axis) is the quality control test value and the independent variable (X-axis) is the ASTM E1333-22 (incorporated by reference, see § 770.99) test value or, upon a showing of equivalence in accordance with paragraph (d) of this section, the equivalent ASTM D6007-22 (incorporated by reference, see § 770.99) test value. Either composite wood products or formaldehyde emissions reference materials can be used to establish the correlation.

(A) *Cluster Approach.* A panel producer may work with its EPA TSCA Title VI TPC to develop a correlation and linear regression between the TPC's ASTM E1333-22 (incorporated by reference, see § 770.99) or equivalent ASTM D6007-22 (incorporated by reference, see § 770.99) test method and the panel producer's quality control method under paragraph (b) of this section. In the event of clustered test results, a panel producer may fit a line through a point near the origin (the intersection of the X and Y axes) and the average value of the clustered data pairs. The point near the origin should represent the value for the EPA TSCA Title VI TPC's ASTM E1333-22 (incorporated by reference, see § 770.99) or equivalent ASTM D6007-22 (incorporated by reference, see § 770.99) test method and the panel producer's quality control method under § 770.20(b) when each testing apparatus is empty or when a very low emitting sample is tested. The average value of the clustered data pairs represents the average of a minimum of five data pairs that compare the test results of the EPA TSCA Title VI TPC's ASTM E1333-22 (incorporated by reference, see § 770.99) or equivalent ASTM D6007-22 (incorporated by reference, see § 770.99) test method with the panel producer's quality control method under paragraph (b) of this section. The line between the point near the origin and the average value of the cluster provides the linear regression. This line may be used by the panel producer and TPC to develop a quality control limit for the product.

(B) *Threshold Approach.* As an alternative to the linear regression and cluster approaches, a panel producer may use the average value of the clustered data pairs from the EPA TSCA Title VI TPC's ASTM E1333-22 (incorporated by reference, see § 770.99) or equivalent

ASTM D6007-22 (incorporated by reference, see § 770.99) test method and the panel producer's quality control method under paragraph (b) of this section as the quality control limit for the product. In this approach, no linear regression line is established. The average value would be assigned as the upper quality control limit for production of the subject composite wood product and must be below the applicable emission standard.

* * * * *

11. Amend § 770.99 by revising and republishing paragraphs (a)(1), (b)(3) through (5), (c), (g), and (i)(1) to read as follows:

§ 770.99 Incorporation by reference.

* * * * *

(a) * * *

(1) ANSI A190.1-2022, Product Standard for Structural Glued Laminated Timber, Approved February 17, 2022; IBR approved for § 770.1(c).

* * * * *

(b) * * *

(3) ASTM D5582-22, Standard Test Method for Determining Formaldehyde Levels from Wood Products Using a Desiccator, Approved August 1, 2022; IBR approved for § 770.20(b).

(4) ASTM D6007-22, Standard Test Method for Determining Formaldehyde Concentrations in Air from Wood Products Using a Small-Scale Chamber, Approved August 1, 2022; IBR approved for §§ 770.3; 770.7(a) through (c); 770.15(c); 770.17(a); 770.18(a); 770.20(b) through (d).

(5) ASTM E1333-22, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber, Approved August 1, 2022; IBR approved for §§ 770.3; 770.7(a) through (c); 770.10(b); 770.15(c); 770.17(a); 770.18(a); 770.20(c) and (d).

(c) *BSI.* British Standards Institute, 12950 Worldgate Dr., Suite 800, Herndon, VA

20170; (800) 862-4977; *www.bsigroup.com*.

(1) BS EN ISO 12460-5:2015 E, Wood based panels.—Determination of formaldehyde release—Part 5: Extraction method (called the perforator method), December 2015; IBR approved for § 770.20(b).

(2) [Reserved]

* * * * *

(g) *ISO.* International Organization for Standardization, 1, ch. de la Voie- Creuse, CP 56, CH-1211, Geneve 20, Switzerland; +41-22-749-01-11; *www.iso.org*.

(1) ISO 12460-2:2024(en) Wood-based panels — Determination of formaldehyde release — Part 2: Small-scale chamber method, Second edition, February 2024; IBR approved for § 770.20(b).

(2) ISO 12460-3:2023(E), Wood-based panels — Determination of formaldehyde release — Part 3: Gas analysis method, Fourth edition, September 2023; IBR approved for § 770.20(b).

(3) ISO/IEC 17011:2017(E) Conformity assessments—Requirements for accreditation bodies accrediting conformity assessments bodies (Second Edition), November 2017; IBR approved for §§ 770.3; 770.7(a) and (b).

(4) ISO/IEC 17020:2012(E), Conformity assessment—Requirements for the operation of various bodies performing inspection, Second edition, 2012-03-01; IBR approved for §§ 770.3; 770.7(a) through (c).

(5) ISO/IEC 17025:2017(E), General requirements for the competence of testing and calibration laboratories (Third Edition), November 2017; IBR approved for §§ 770.3; 770.7(a) through (c).

(6) ISO/IEC 17065:2012(E), Conformity assessment—Requirements for bodies certifying products, processes and services, First edition, 2012-09-15; IBR approved for §§ 770.3; 770.7(a) and (c).

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(1) Voluntary Product Standard PS 1-22, Structural Plywood, effective October 2, 2023; IBR approved for §§ 770.1(c); 770.3.

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