

September 27, 2024

Bettina Meyer and Harald Schwab  
Fraunhofer Institute for Wood Research  
Wilhelm-Klauditz-Institut WKI  
Bienroder Weg 54E  
38108 Braunschweig  
Germany

Dear Bettina Meyer and Harald Schwab:

Thank you for your letter dated November 3, 2023, informing us that one of the alternative small-scale quality control test methods previously approved by the California Air Resources Board (CARB) has been updated by the International Organization for Standardization (ISO). The updated method is ISO 12460-3:2023, the Gas Analysis Method, which supersedes ISO 12460-3:2020, previously approved by CARB in February 2021. In your letter, you requested that we approve the use of this updated quality control test method.

CARB's Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products gives us the authority to approve of alternative small-scale quality control test methods for use by manufacturers of composite wood products when conducting routine quality control testing of formaldehyde emissions. To be approved, such alternative quality control test methods must be shown to correlate to the ATCM's primary or secondary test methods.

We reviewed the updated method, which was revised to include laser absorption spectroscopy (LAS) as an additional analytical procedure, adding to the four analytical procedures included in the 2020 version of the method. Because the LAS analytical procedure is new technology and new to the updated method, CARB requested that you provide data demonstrating the correlation between the LAS analytical procedure and the primary or secondary test method. The data you provided demonstrates that the LAS measurements are highly correlated to the secondary test method measurements over a range of formaldehyde concentrations pertinent to our emission standards. Therefore, based on our analysis of the information provided, your request is approved.

ISO 12460-3:2023 is approved for use by any manufacturer of composite wood products, provided that the following conditions are met by all persons using the LAS analytical procedure:

The direction in footnote 'd' to Table 1 in ISO 12460-3:2023 is followed according to the procedure to show equivalent test results as described in paragraph 9.4.2 of ISO 12460-2, Wood Based Panels - Determination of Formaldehyde Release - Part 2: Small-Scale Chamber Method, and

Bettina Meyer and Harald Schwab  
September 27, 2024  
Page 2

The linear regression described in paragraph 9.4.2.2 of ISO 12460-2 is calculated according to the instruction in in paragraph 9.4.2.2 and ISO 12460-2 Annex D, Establishing of a correlation.

We will update our Composite Wood Products webpage listing of approved alternative quality control test methods to indicate that ISO 12460-3:2023 is approved for use by manufacturers of hardwood plywood, particleboard, and medium density fiberboard.

If you need further assistance, please contact Hilary Minor at [hilary.minor@arb.ca.gov](mailto:hilary.minor@arb.ca.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Matthew O'Donnell".

Matthew O'Donnell, Chief, Risk Reduction Branch

cc: Hilary Minor, Air Pollution Specialist, Risk Reduction Branch