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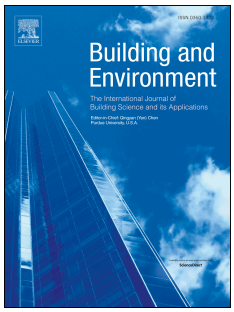

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Wenhao Chen, Mark Mendell, Na Li, Kazukiyo Kumagai

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Formaldehyde Emissions from Seams and Cut Edges of Laminate Flooring: Implications for Emission Testing Protocols and Exposure Estimation

Wenhao Chen*, Mark Mendell, Na Li, Kazukiyo Kumagai

Indoor Air Quality Program, Environmental Health Laboratory, California Department of Public Health, Richmond, CA, USA

* Corresponding author:

Wenhao Chen

Tel: +1 510 620 2868

Fax: +1 510 620 2825

Email: Wenhao.Chen@cdph.ca.gov

Abstract

Concern about high formaldehyde emission from specific models of laminate flooring (LF) products has recently drawn wide public attention in the U.S. This raises questions about how to best test emissions of LF products and how to make appropriate model assumptions when conducting relevant lifetime exposure and risk assessments. This paper presents a preliminary study focused on these questions. Formaldehyde emissions were measured in 20-L environmental chambers for 6 months for two LF products made with low- and high-emitting composite wood core. Tests were conducted for specimens with and without exposed seams ("click-joints" at the sides and ends of each flooring plank) and perimeter cut edges. Results demonstrate that exposed seams and cut edges can contribute significantly to overall emissions, especially for the product with a high-emitting core, and this effect could last long after flooring installation. Testing with no exposed seams and perimeter cut edges might allow a finished flooring product with a high-emitting core and high emissions after installation to meet low-emitting labelling criteria inappropriately.