



Characterizing and Communicating Hazards Posed By Engineered Nanomaterials (ENMs) in Construction

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Presenter biography

Gavin West has a bachelor's degree from the University of Virginia and a master's degree in public health from George Washington University. He is the Director of Health Research for CPWR - The Center for Construction Research and Training, where he has worked for more than a decade to prevent occupational injuries and illnesses in construction. Mr. West is an author of two book chapters on construction hazards and more than twenty peer-reviewed papers spanning the fields of respiratory physiology, occupational epidemiology, and industrial hygiene. He was the lead author of a study awarded Best Paper by the AIHA Nanotechnology Working Group in 2019 and a recipient of the Randy Ogle/Paul Baron Award in 2022. He believes in the importance of translating research to practice and works with CPWR colleagues and partners to accomplish this goal.



Presentation abstract

The enduring effects of lead and asbestos underscore the importance of up-front research to anticipate potential hazards posed by new substances used in the built environment. With many new and innovative construction materials entering the marketplace today, the US federal government has continued to invest in nanotechnology research and development including research on the health and safety aspects of engineered nanomaterials (ENMs). Roughly 40,000 studies have been published on the inherent hazards of ENMs, yet hazard classification for this broad class of materials remains challenging and human health effects resulting from exposure are poorly understood. NIOSH established recommended exposure limits for three ENMs that have been studied more extensively than others, classifying two as potential occupational carcinogens. Hazard information for ENMs is primarily derived from in vitro and in vivo research, given that epidemiological data remain limited. Exposure data provide important context to understand, communicate, and manage hazards posed by ENMs in the workplace. This session explores construction as a case study of how nano safety science evolved over time toward greater integration of exposure and toxicity research. Standards and guidance related to ENM labeling and hazard communication will be discussed, along with resources for ENM hazard communication.