



Builders and Contractors Take Note: The Move to Make Buildings Healthier is Upon Us

A well constructed building should be sturdy and functional, as well as safe and healthful for its occupants. However, some materials and products used in building design and construction do not meet all of these criteria. In recent years, government agencies and non-profit organizations have expressed concerns over the chemicals used in construction and their impact upon the public health. The move to broaden and intensify regulation of formaldehyde emissions from composite wood products is one such example.

The chemical formaldehyde is a naturally occurring, volatile organic compound used in the manufacture of a number of building materials and household products. "[F]ormaldehyde is used to make glues and binders, particularly low-cost urea formaldehyde, and is found in composite wood, insulation, furniture, adhesives and binders, paints and coatings." When a building is constructed or furnished with materials or products that contain formaldehyde, the off-gassing that occurs may expose occupants to formaldehyde. In homes with significant amounts of new pressed wood products, levels of formaldehyde can be greater than 0.3 parts per million (ppm). That is a substantial amount of exposure, which may create myriad health problems.

According to the Environmental Protection Agency (EPA), exposure to formaldehyde at elevated levels (above 0.1 ppm) can cause watery eyes, burning sensations in the eyes and throat, nausea and breathing difficulties. High concentrations of formaldehyde may trigger attacks in people with asthma. Epidemiological studies have also shown a causal relationship between exposure to formaldehyde and cancer in humans. This year, the National Toxicology Program classified formaldehyde as a "known human carcinogen."

The federal government began regulating formaldehyde in consumer products in 1984, when the Department of Housing and Urban Development adopted regulations limiting formaldehyde emissions from composite wood products in manufactured homes. After the public learned of the high formaldehyde levels present within trailers supplied by the Federal Emergency Management Agency to persons made homeless by Hurricane Katrina, interest in attenuating the dangers of formaldehyde exposure became acute.

In March 2008, a plethora of environmental organizations and individuals filed a citizen petition with the EPA pursuant to the Toxic Substances Control Act ("TSCA"), asking the EPA to nationalize the formaldehyde emissions

reduction standards that the California Air Resources Board ("CARB") adopted for three types of composite wood products, namely hardwood plywood, particle board and medium-density fiberboard and to extend these new regulations to composite wood used in manufactured housing. Although the EPA rejected the citizen petition's request for rulemaking (opting, instead, to initiate investigatory proceedings), Congress intervened in June 2010, by passing the Formaldehyde Standards for Composite Wood Products Act ("Formaldehyde Standards Act"), which the President approved on July 7, 2010.

[Earlier this year the U.S. Senate introduced a bill known as the Safe Chemicals Act of 2011, which proposes to amend TSCA to expand the EPA's data collection, rulemaking and regulatory powers, transfer from the EPA to industry the burden of proof respecting chemical safety and require the conduct of green chemistry research to promote the development of safer alternatives to toxic substances.]

The Formaldehyde Standards Act amends TSCA to give the EPA authority to regulate formaldehyde emissions from "hardwood plywood, medium-density fiberboard and particleboard sold, supplied, offered for sale, or manufactured in the United States" and finished goods produced from these composite wood products. The formaldehyde emissions reduction standards contained in the statute are modeled on the regulations adopted by CARB. The EPA has until January 1, 2013, to promulgate regulations under the Formaldehyde Standards Act, which must address, among other things, laminated products, ultra-low emitting formaldehyde resins, third-party testing and certification, chain of custody requirements, sell-through provisions and product labeling. The Formaldehyde Standards Act also requires the EPA to work with the Commissioner of Customs and Border Protection and other federal agencies and departments, as appropriate, in developing regulations that apply these new standards to imported products.

Another governmental initiative is the EPA's issuance of chemical action plans to formulate risk management solutions on chemicals of concern. In April 2011, the EPA released an action plan for methylene diphenyl diisocyanate (MDI) after performing a screening level review of readily available use, exposure and hazard information. MDI and its related polyisocyanates are used in the manufacture of a host of consumer and commercial products, such as spray-applied foam sealants, adhesives, and coatings. According to the EPA, "[d]iisocyanates are well known dermal and inhalation sensitizers [that] have been documented to cause asthma, lung damage, and in severe cases, fatal reactions."

The EPA developed its MDI action plan due to concerns over the potential injury that might occur to the consumer or the self-employed worker during installation of spray foam insulation or while using other products containing uncured (unreacted) MDI and its related polyisocyanates, and to the general population from incidental exposures when such products are used in or around buildings. In light of this apprehension, the EPA intends to take several next steps, which may include initiating a test rule to require exposure monitoring studies or a rulemaking for consumer products containing uncured MDI and commercial uses of uncured MDI products in locations where the general population could be exposed.

On the private side, the U.S. Green Building Council ("USGBC") has introduced several pilot credits for persons seeking certification under its Leadership in Energy and Environmental Design ("LEED") Green Building Rating System that are focused on reducing hazardous chemicals in construction. The newest of these, posted on September 1, 2011, is Pilot Credit 54: MR—Avoidance of Chemicals of Concern in Building Materials. In order to achieve this pilot credit, an applicant must show that 20% of all building products and materials, measured by cost, meet USGBC's prescribed ingredient reporting and chemical avoidance criteria. Specifically, in the area



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of chemical avoidance, "[p]roducts and materials must not contain any substances listed in the State of California's Proposition 65 Safe Drinking Water and Toxic Enforcement Act of 1986, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity published May 20, 2011."

The foregoing represents just a small sample of governmental and private actions aimed at reducing exposure to toxic chemicals in the built environment. Builders and contractors should learn more about these and other programs that may affect their business practices and keep track of future developments.

Indeed, as a final note it is worth mentioning that earlier this year the U.S. Senate introduced a bill known as the Safe Chemicals Act of 2011, which proposes to amend TSCA to expand the EPA's data collection, rulemaking and regulatory powers, transfer from the EPA to industry the burden of proof respecting chemical

safety and require the conduct of green chemistry research to promote the development of safer alternatives to toxic substances. In apparent support of this legislative proposal, the State Assembly unanimously passed a resolution in June 2011, imploring Congress and the President "to modernize" federal chemicals policy.

It is yet uncertain just how far the aforesaid U.S. Senate bill or the broader movement to make buildings healthier will go. Certainly, the general hostility shared by many in the business community toward new regulations will likely dampen enthusiasm for any substantial changes in government policy, especially as the nation's economic woes continue. However, there is little doubt that the impetus to protect human beings and the environment from toxic chemicals exists and builders and contractors who use materials and products that contain these substances should take note. ■

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Offers Mike Cano

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