Green Buildings and Indoor Air Quality: Lessons Learned from Household Exposure Studies

Robin E. Dodson*, Kathleen R. Attfield, and Ruthann A. Rudel

Silent Spring Institute, Newton, MA 02458 USA

*Corresponding email: dodson@silentspring.org

SUMMARY
Household exposure studies demonstrate that building materials, furnishings, and products used in the home can result in significant exposures to chemicals that pose potential health risks. Reviews of residential green building standards reveal that many of these exposures are not adequately addressed. With a current indoor environmental quality focus on mold, lighting, ventilation, and volatile organic compounds, green building practices neglect semivolatile organic compounds, including phthalate plasticizers, brominated flame retardants, perfluorinated compounds, and polychlorinated biphenyls, which can be released into indoor air and accumulate in dust. To avoid these contaminants and ones yet to be identified, green building practices should enhance indoor standards with informed material selection, careful use of recycled materials, increased occupant education in selection of furnishings and consumer products, and promotion of a more comprehensive U.S. chemicals policy that will deliver full health and safety information for all current and future chemicals.