

Letters to the Editor

address exposure to mold and biological agents, but also reduce exposure to potentially harmful chemicals.

Thank you,

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Editor's Note: More than sixty supporting organizations signed on to HSC's letter to the Journal of Environmental Health. To view the signatories, please visit www.healthyschoolscampaign.org/?170

Dear Editor:

We are writing regarding the article in the May 2009 issue of the *Journal of Environmental Health* titled, "Efficacy of 'Green' Cleaning Products with Respect To Common Respiratory Viruses and Mold Growth," by Ed Light.

The main premise of this paper, that green cleaning products should be evaluated as if they were disinfectants, is flawed. First of all, antimicrobial products are registered as pesticides under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the U.S. Environmental Protection Agency does not currently allow third party organizations, such as Green Seal, to certify "green" or "safe" claims about pesticides.

It is not surprising that Mr. Light found Green Seal-approved products that "do not claim antimicrobial capability." The previous version of Green Seal's GS-37 standard, which Mr. Light references in his paper, stated in the definitions for general purpose, carpet, and glass cleaners, "This category does not include any products required to be registered under FIFRA, such as those making claims as sterilizers, disinfectants, or sanitizers." The current version of the GS-37 standard, released in August 2008, states in its scope: "The standard does not apply to ... enzymatic or microbially active products, or products required to be registered under the Federal Insecticide, Fungicide, and Rodenticide Act, such as those making claims as sterilizers, disinfectants, or sanitizers." We think this is quite clearly stated and should have raised a red flag among those reviewing the manuscript prior to publication.

Secondly, cleaning and disinfecting are not the same thing. Proper (and effective) disinfection takes place only after thorough cleaning. For example, New York State's Office of General Services states it very clearly in their *Guidelines and Specifications for the Procurement and Use of Environmentally Sensitive Cleaning and Maintenance Products for all Public and Nonpublic Elementary Schools*: "Clean first, then disinfect or sanitize only when and where necessary. Sur-

faces must be cleaned thoroughly, whether or not disinfectants are used." In addition, the Centers for Disease Control and Prevention (CDC) states in its *Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008*: "Because maximum effectiveness from disinfection and sterilization results from first cleaning and removing organic and inorganic materials, this document also reviews cleaning methods."

Many of the ingredients found in disinfectants are hazardous to health. Some are known to cause asthma, a health endpoint for which there is usually no known exposure threshold, in which case OSHA-permissible exposure limits are not protective. Therefore, limiting the use of disinfectants to only when they are necessary and finding the least toxic alternatives among disinfectants are essential exposure prevention strategies.

In addition, finding the least toxic alternatives among general cleaners is also desirable to protect health. Unfortunately, there are many unregulated "green" claims being made to sell cleaning products. One way that consumers, including employers, can find safer alternatives is to seek out products that have been certified by third-party organizations that issue openly published standards. As an example, criteria for GS-37 certification include a prohibition of ingredients known to cause allergic-type asthma, toxicity and corrosivity limits, limits on ingredients that can cause indoor air pollution, and limits on chemicals that can be absorbed through the skin. These are valuable and relevant attributes to consider in choosing products.

This paper would have been useful had it compared antimicrobial pesticides to each other or compared "green" versus conventional cleaners. Because it takes the illogical leap, however, of evaluating green cleaning products for something that they very clearly are not designed to do, it confuses the consumer, adds nothing valuable to the discussion about cleaning products and practices, and, worst of all, may increase the number of unnecessary hazardous chemical exposures.

Thank you for this opportunity to share our comments and concerns.

Sincerely,

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Letters to the Editor

Dear Editor:

I am writing on behalf of Green Seal with an additional point of clarification regarding your recently published article, "Efficacy of 'Green' Cleaning Products with Respect To Common Respiratory Viruses and Mold Growth (*JEH*, May 2009)."

Since 2005, the U.S. Environmental Protection Agency's (U.S. EPA's) Antimicrobials Division has interpreted the labeling requirements under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) such that environmental claims—in particular, third-party environmental certifications—have not been permitted on FIFRA-registered products. As a result, Green Seal does not certify products that have been FIFRA-registered as disinfectants, sanitizers, mildewcides, fungicides, etc. In truth, the scope of our environmental standard for industrial and institutional cleaners (GS-37) excludes such products:

This standard establishes environmental requirements for industrial and institutional general purpose, restroom, glass, and carpet cleaners. For purposes of this standard, industrial and institutional cleaners are defined as those cleaners intended for routine cleaning of offices, institutions, warehouses, and industrial facilities. Furthermore, the criteria in this standard include consideration of vulnerable populations in institutional settings such as schools, daycare facilities, nursing homes, and other facilities. The standard does not include cleaners for household use, food preparation operations, or medical facilities. *The standard does not apply to air fresheners, enzymatic or microbially active products, or products required to be registered under the Federal Insecticide, Fungicide, and Rodenticide Act, such as those making claims as sterilizers, disinfectants, or sanitizers* (emphasis added).

In light of these important details, it was a rather remarkable premise to take hard surface cleaners that have not been registered with the U.S. EPA as antimicrobial products and come to the conclusion that they do not, in fact, disinfect or sanitize. I am certain that a similar examination of 27 "non-green" (i.e., traditional or conventional) hard surface cleaners that were also not registered as antimicrobial products would result in the exact same conclusion. Therefore, Mr. Light's article embodies the proverbial "apples to oranges" comparison and is based upon a fundamentally flawed assertion from the outset.

Given the influence of a respected journal such as yours, we sincerely hope that you will take the necessary steps to correct the erroneous conclusions with respect to "green" cleaners and "green" cleaning that readers may draw from Mr. Light's inappropriate comparison.

Sincerely,

Mark T. Petruzzi
Vice President of Certification and Strategic Relations
Green Seal

Dear Editor:

We are writing to express concern about the misleading premise, substance, and recommendations of the article, "Efficacy of 'Green' Cleaning Products With Respect to Common Respiratory Viruses and Mold Growth (*JEH*, May 2009)." Our technical comments can be read in full at www.cleaningforhealthyschools.org.

First, the premise of the author's study, in which 27 Green Seal-certified cleaning products were "evaluated for virucidal and fungicidal activity," is flawed since certified green cleaners are not allowed by the U.S. Environmental Protection Agency (U.S. EPA) to make antimicrobial claims (U.S. EPA, 2002).

In contrast to what the article states, "green" cleaning products are not typically marketed as "natural materials to replace bleach and phenolics." Rather, Green Seal-certified glass, surface, and floor cleaners are marketed as replacements for conventional products designed for the same purpose.

The article inaccurately states that "green" cleaning advocates often recommend avoiding the use of disinfectants altogether, misrepresenting the positions of the Montgomery County Public School District's 2006 *Healthy, High Performance Cleaning Program* and the Healthy Schools Network, whose 2002 *Sanitizers and Disinfectants Guide* states that "schools follow all public health laws and regulations regarding the use of sanitizers and disinfectants (Healthy Schools Network, 2002)." Similarly, Hospitals for a Healthy Environment (H2E), whose founding members include the American Hospital Association, does not call for eliminating disinfectants. Instead, it addresses the "over-disinfection" of non-critical care areas.

The author also selectively presents the position of the American Society for Healthcare Environmental Services (ASHES) by omitting the first section of its 2006 position statement, which says, "ASHES supports cleaning procedures that are friendly to the environment (ASHES, 2006)" and failing to cite more recent statements by ASHES that explain its support for green cleaners and its concerns about using disinfectants in noncritical areas such as floors (Healthcare Purchasing News, 2008).

The article downplays the hazards of volatile organic compounds (VOCs), which are often emitted at higher levels from conventional cleaners, by asserting that they "are normally present in indoor air at the parts per billion level." It cites a 2007 newsletter by Air Quality Sciences, but did not cite other AQS reports contradicting the author's conclusion about the safety of VOCs in indoor air, such as, "Indoor air pollution in schools can pose a serious threat to children's health. Among the pollutants of greatest concern are volatile organic compounds (VOCs) that emit from building materials, furnishings, finishes and cleaning products (Air Quality Sciences, n.d)."

Other scientific studies link exposure to cleaning products with health effects. For example, a study of 1,915 confirmed cases of work-related asthma in four states found 12% associated with exposure to cleaning products used in schools, medical facilities, hotels and other facilities (Mazurek et al., 2008; Rosenman et al., 2003).