



Green Cleaning in Schools

Exposure to Cleaning Chemicals

Conventional cleaning products can contain a wide variety of harmful chemicals that have been linked to asthma, cancer, and other negative health effects. In fact, custodial workers and teachers have been found to have some of the highest rates of occupational asthma.^{i,ii} The potential for these chemicals to pollute indoor air and impair the comfort and health of students and staff cannot be dismissed.

Children are especially vulnerable to toxic exposures. Kids breathe more air per pound of body weight than adults, do not detoxify as quickly, have frequent hand-to-mouth contact, and have organs that are still in sensitive stages of development. These increased risks factors make adverse exposures not only physically dangerous for students, but create atmospheres where it can become difficult to learn.

Health benefits of improving indoor air quality

Research shows that implementing policies to address air quality in classrooms – such as using safer cleaning products – will foster healthier and more productive learning environments. For example, after adopting an indoor air quality program (including green cleaning) Montpelier High School saw a 50% reduction in asthma cases and a 30% reduction in other complaints including headaches, nausea, and cold symptoms.ⁱⁱⁱ

These success stories aren't just happening in Vermont, but in schools across the country as well. After implementing Tools for Schools – the U.S. EPA's voluntary healthy schools program:

- G.W. Carver Elementary School in California had a 50% reduction in visits to the office for the use of asthma inhalers; and
- Little Harbour School in New Hampshire experienced a 25% reduction in the number of visits to the school nurse for stomachaches and headaches within the first 5 months of program implementation.^{iv}

"The conventional products we used before made it difficult for me to breathe, particularly first thing in the morning. Now the whole school is breathing easier, and it was easy and cost neutral to switch."

*Nancy Croteau, Principal
Millers Run School in Sheffield, VT*

Indoor Air Pollution in Classrooms

Cleaning supplies used in 13 California school districts were found to emit more than 450 toxic contaminants.

According to the study:

- **Most of the 450 chemicals have never been assessed for safety**
- **6 chemicals are linked to asthma**
- **11 chemicals are known, probable, or possible human carcinogens (including formaldehyde and chloroform)**
- **Cleaning a classroom with certified green products releases less than one-sixth of the total air pollution released by cleaning a classroom with conventional cleaners**

*Source: Environmental Working Group.
Greener School Cleaning Supplies=Fresh Air + Healthier Kids: New Research Links School Air Quality to School Cleaning Supplies.November 2009.*

Safer Cleaning Products are Cost Effective

Environmentally preferable cleaning products are equally as effective and affordable as conventional cleaning supplies, and are carried by all major distributors in Vermont.

According to the Environmental Protection Agency, "the cost of green cleaners and equipment varies from school to school, depending on a district's size and cleaning needs. However, there is consensus that

green cleaning methods actually save money, if not up front – as is often the case – then in the long run.”^v

These cost savings can be achieved by:

- Replacing “ready to use” conventional cleaning supplies with highly concentrated “green” cleaning products;
- Reducing the number of cleaning products used; and through
- Schools participating in cooperative purchasing agreements to negotiate good prices from vendors.

Green Cleaning in Vermont

Vermont’s state buildings have already transitioned to green cleaning products as a result of the Clean State Program created by an executive order signed by Governor Douglas in 2004. In addition, many schools in Vermont have been voluntarily using safer cleaning products with great effect for years now. In fact, 120 schools in Vermont have received guidance on switching to environmentally preferable cleaning products, many of which have found these less-toxic alternatives to be cost neutral and equally effective.

For example, Mark McKinstry, Facilities Manager for the Randolph School District reports, “As part of adopting a green cleaning program, we replaced 78 cleaning products with four main products, including one concentrate that can be used for many different cleaning tasks. We are buying from the state contracts and have realized a substantial savings in our custodial budget. After we made the switch, teachers were stopping me in the hall to ask what we had done to improve the air quality in the school. They had noticed a significant reduction in the effects of poor indoor air quality, such as respiratory irritation, sinus problems, difficulty in concentrating and headaches.”

New York State Sees Cost Benefit of Using Green Cleaning Products

Our experience from over three years of implementing the legislation that requires all schools in New York State to use environmentally sensitive, or “green”, cleaning products, is that they currently do not cost more than traditional cleaning products. In fact, our anecdotal evidence has shown that green cleaning products cost the same or less, and they work as effectively, as their traditional counterparts.

Source: NYS Office of General Services, March 2010. Available at: <https://greencleaning.ny.gov/Docs/GCSurveyFinalReport072707Revised030910.pdf> (accessed on January 28, 2011)

ⁱ J. M. Mazurek, MD, MS, M. Filios, SM, RN, et al. “Work-Related Asthma in the Educational Services Industry: California, Massachusetts, Michigan, and New Jersey 1993–2000,” *American Journal of Industrial Medicine* (2007.)

ⁱⁱ F. Reinisch, R.J. Harrison, S. Cussler, et al., “Physician Report of Work-Related Asthma in California, 1993–1996,” *American Journal of Industrial Medicine* 39, 1 (January 2001): 72–83.

ⁱⁱⁱ Montpelier High School. Information provided by school nurse Joan Fitch. January 2011.

^{iv} Environmental Protection Agency, Office of Air and Radiation Indoor Environments Division, *Indoor Air Quality Tools for Schools Program: Benefits of Improving Air Quality in the School Environment*, EPA 402-K-02-005, February 2003.

^v Environmental Protection Agency. Indoor Air Quality Tools for Schools Program. Update #26. March 2, 2010.

States with Green Cleaning Laws

New York

Illinois

Iowa

Connecticut

Maryland

Nevada

Hawaii

VT Schools that use Green Cleaning Products

This is only a partial list of schools using all or mostly green cleaning products.

Bellows Falls UH
Benson Village
Blue Mountain USD
Burke Town School
Burlington SD
Charleston Elementary
Derby Elementary
Fair Haven Union HS
Fayston Elementary
Jay Westfield Joint
Lake Region UHS
Lunenburg/Gilman
Lyndon Town School
Mettawee Community
Millers Run
Milton Elementary
Montpelier SD
North Country UHS
Orwell Village School
Pomfret School
Randolph SD
Spaulding High School
Thatcher Brook