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# Greening at the Grass Roots

GREEN CLEANING





Each day, 56 million students, and 6 million teachers and staff enter the doors of our nation's schools. According to estimates from the U.S. Environmental Protection Agency, half of these adults and children spend their school days breathing air polluted with dust, chemicals, mold, lead, asbestos, pesticides and a variety of other airborne particles, gases and toxins.

A small army of about 400,000 school custodians clean, scrub, sweep, mop and disinfect classrooms, cafeterias, bathrooms, gyms and hallways in a never-ending battle against these and other harmful substances in school air. But ironically, a significant number of the cleaning products that many custodial staffs in schools use do not improve indoor air. They add more toxic chemicals to it.

## Asthma Rates Climbing

The American Federation of Teachers has been concerned about the impact of indoor air pollution and the health effects of some traditional cleaning chemicals for many years. The unexplained increase in asthma among children and adults—a 75 percent jump in the prevalence of asthma between 1980 and 1994—has led researchers to question the effect of chemical pollution in indoor air, and its impact on the development and severity of asthma.

- Asthma is caused by chronic inflammation of the airways. It is the most common chronic illness affecting children under 18.
- The National Institutes of Health estimates that as many as 20 million Americans now have asthma; 9 million of them are children.
- Based on federal health surveys, asthma is the leading cause of absenteeism; more than 14 million school days are lost due to this one chronic illness.



- Coughing, wheezing, chest constriction and difficulty breathing result when a person with asthma reacts to “asthma triggers” in the environment.
- Recent research shows chemicals from cleaning products in indoor air can both cause asthma and trigger asthma symptoms.

### **Asthma Burden on School Employees:**

Asthma and related pulmonary disease are now among the most costly health conditions facing Americans, with an estimated yearly tab of \$53 billion. Students, teachers and staff, particularly custodial staff, bear a larger share of that burden than do workers in many other occupations.

- Research by the National Institute for Occupational Safety and Health (NIOSH) found that teachers were more likely to report a higher prevalence of work-related upper respiratory symptoms than other workers.
- Female teachers experience wheezing and are diagnosed with asthma more frequently than many other working women.
- A 2010 review of a large number of recent medical journal articles on respiratory illness among cleaning and custodial staff showed that cleaning work and use of cleaning products increased the risk of developing asthma or other respiratory illnesses.
- Use of chlorine bleach, disinfectants and cleaning sprays were associated with the greatest risk of respiratory illness and asthma attacks.
- In one study, custodial staff who used cleaning sprays even once a week had a 30 to 50 percent greater incidence of asthma than other workers.

## The Green Cleaning Challenge

The AFT has been advocating for cleaning up the indoor air in schools by choosing green construction standards, nontoxic materials, and by employing green practices in schools. AFT members have taken on the challenge, working at the grass-roots level to clean school air by switching to nontoxic “green cleaning” products in place of traditional, harsh chemicals.

Green cleaning is defined by ISSA, the worldwide cleaning industry association, as “cleaning to protect health without harming the environment.” As simple as this may sound, cleaning green requires an affirmative decision on the part of the school and the custodial staff to “buy green.” Green cleaning products are tested and certified to be free of harmful chemicals by several independent organizations. Information on these certifications and green products are available at EcoLogo, Green Seal and a variety of other organizations (see Resources section).

ELLEN BANNER



“We clean our buildings because we want to control the spread of disease, not just have a shiny floor,” says Mark Bishop, vice president of policy and communications at the Healthy Schools Campaign, an organization that promotes environmentally conscious school practices, including green cleaning. “Schools will not be successful if people are sick. We look to the janitorial and custodial staff as the first line of defense of a healthy building,” Bishop says. “Green cleaning is taking a cleaning program a step further. We want to make sure we are not introducing toxins that could cause harm to students or staff.”

**Cleaning chemicals pollute:** Few people are aware of the pollutants released from traditional cleaning supplies. In 2009, the Environmental Working Group looked at cleaning products used in 13 of California’s largest unified school districts, including Bakersfield, Fresno, Los Angeles, Sacramento, San Francisco, San Jose, and others. EWG found that 457 different contaminants were released to indoor air by the 21 school cleaning products EWG tested. Six of the contaminants released are known to cause asthma. Eleven of the chemicals are linked to cancer. Still others are toxic to the reproductive or nervous system, or retard normal development.

The certified green products EWG tested released far fewer contaminants than traditional cleaning products. On average, green general purpose cleaners contained one-fourth as many chemicals with documented health concerns as conventional products. Among all the cleaning supplies tested, certified green products contained one-third as many chemicals that pose health dangers to children or adults.

Green cleaning in custodial work is too new to have amassed a body of statistical data demonstrating its benefits. “But we have dozens of anecdotal stories from talking to janitorial staff who are

saying that absenteeism of their janitorial staff has dropped considerably since implementing green cleaning,” Bishop adds. “They also say that student absenteeism is down.”

**Green cleaning can cut costs:** Some schools or districts fear that moving away from harsh cleaning solutions will cost more and create more work for the staff. But Bishop says schools that have switched to green cleaning find the opposite is true. “If you look at swapping green chemicals for traditional chemicals—you see [cost] benefits because you can use many fewer products. You use two to six products for the school, instead of 20 to 30.”

But cleaning chemicals are not the major cost of any school’s janitorial program. Labor and equipment are the big-ticket items. “Green cleaning will drive down cleaning cost per square foot,” Bishop points out, “but it’s reducing the cost by making the cleaning program more effective with the equipment the school has, and with existing labor. To do that, green cleaning requires *training*.”

**Equipment and training are key:** Bishop gives the example of switching from the traditional use of wet mops, buckets and paper towels along with harsh chemicals, to green, microfiber cloths and mops, which are light and used in chemical-free cleaning. Microfiber mops can be color coded to use in different areas of the school. They require no lifting of heavy buckets and machinery; they are lighter and more maneuverable around and under desks; and they are ergonomically correct, so they reduce workplace injuries. Microfiber mops allow most surfaces to be cleaned faster, and with only water. They remove dirt, bacteria, viruses and allergens without the use of toxic, irritating chemicals, like chlorine.

Adoption of just this one green cleaning tool reduces the use of cleaning products, increases



labor productivity, and cuts the risk of workplace injury. “The idea is you can have a better trained workforce that is more effective [and] safer,” Bishop says, “and by improving effectiveness, that is how you can ultimately drive down costs [of the cleaning program].”

No studies have yet been done quantifying the improvements in health of students and staff when a school switches from traditional cleaning techniques to green cleaning. But interest in green cleaning is increasingly. “There is a real opportunity here for unions to create and train this green cleaning workforce,” Bishop says. AFT members have been seizing this opportunity for some time now, as more custodial staffs look at their job as not simply cleaning the schools, but playing a key role in creating a healthy environment for students and staff.

**Green Oregon:** Cydnie Meyer, operations assistant and lead custodian at the Linus Pauling Middle School in Corvallis, Ore., says her school has replaced many harsh cleaning solutions with peroxide-based products. “I’ve seen a change in the health of the staff,” she says. The air in the school is now free of strong chemical or perfume smells that Meyer used to find troubling. “It smells clean,” she says. “But we still have people who can’t smell it, so don’t think things are clean. I remember the time when we were using the heavy bleach. When they [the custodians] used those products, they had to wear the heavy gloves and still, when they left for the day, their eyes would be smarting and they could still smell it hours later because it was in their sinuses and lungs.”

One of the key reasons her school opted for green cleaning, Meyer says, was to improve the air for people at the school who had asthma. “We wanted to eliminate triggers.” The staff also has abandoned any fragrance-based products for the same reason. “I have asthma problems myself,” Meyer adds, “and green cleaning has helped me a lot.”



**Rocky Mountain high and green:** Bob Maestas, head custodian at Second Creek Elementary in Brighton, Colo., decided his school would go green about three years ago, after he attended a conference on green cleaning in Baltimore sponsored by the AFT. “My union asked me if I would go, and I said, ‘Sure.’ It was really big. Lots of different schools and unions were there, from lots of other states, with all the different companies and vendors.” Maestas came back excited about what he’d heard at the conference, and began switching all his supplies to green products, training the staff and moving ahead with the program.

Over the last three years, he’s seen a number of improvements in the health of students and staff that he attributes to the change to green cleaning. “The sick rate at the school is much shorter now—kids used to get sick a lot more. Once I went green, I saw a big difference.”

The health of his custodial staff also has improved. “I see fewer sick days for the custodians, and I’m hardly every sick now.” In the past, Maestas says, there were many cases of pink eye, and colds were common among both students and his staff. No longer. “We have a lot of kids with asthma,” he adds, “so the chemicals we’re using now don’t make it worse. The kids with asthma seem better.”

By Maestas’ count, at least three-quarters of his district’s schools have changed over to green cleaning. “They should go green cleaning state-wide in the schools,” he says. “Hopefully, the state will make it a law.” Nine states and the District of Columbia now require schools to initiate a green cleaning program or to use certified green products. But each law differs in how schools can meet this requirement; and two states (Maine and Missouri) require only that school districts develop voluntary green cleaning guidelines.

# If You're Ready to Clean Green

For most schools, it's up to an individual school and its custodial staff to take the initiative and make the leap to green cleaning. If you're ready to make your school's cleaning program greener, the Healthy Schools Campaign has some basic steps to get you started:

- 1 Develop your green cleaning program.** Bring together stakeholders to create or revise a green cleaning plan.
- 2 Use certified green cleaning products.** The marketplace is full of green products that work well and cost about the same as traditional products. This step also includes training or retraining cleaning personnel in proper product application, mixing, dilution and disposal.



**3 Introduce green equipment and supplies.** Equipment selection is a huge part of a green cleaning program. Today's tools can reduce chemical use and increase staff productivity. Improvements in ergonomics can help custodians avoid injuries from repetitive strains. Green equipment and supplies also can reduce exposure to dust and chemicals while cutting energy and water use.

**4 Make training staff a top priority.** Effective use of green products by the existing staff is the key to saving money by going green. The cost savings are in the increased efficiency, productivity, and in the lower rates of illness and injury that a green cleaning program can deliver.

**5 Adopt green cleaning procedures.** Change the frequency, technique or time when cleaning is performed if necessary. For instance, spray the product on a cleaning cloth rather than on the surface being cleaned, or find an alternative to spray products entirely.

**6 Share the responsibility.** Educate custodial staff, administrators, teachers, students, union representatives, vendors and visitors about green cleaning and green practices they can use to promote a healthy school environment.

# Resources for Green Cleaning in Your School

## **“The Quick and Easy Guide to Green Cleaning in Schools” [Third Edition]**

(Healthy Schools Campaign, Chicago)

This updated edition of the original 2007 guide outlines five green cleaning steps that will enhance the school environment; describes independent organizations that establish standards for and certify cleaning supplies and equipment; and offers discussions of why green cleaning is important to schools, students, staff and parents. The guide includes information on specific products, equipment and supplies that have been certified. Free download at <http://www.healthyschoolscampaign.org/programs/gcs/guide>.

## **Cleaning for Healthy Schools Toolkit**

(National Collaborative Work Group on Green Cleaning and Chemical Policy Reform in Schools, 2011)

This is a free do-it-yourself toolkit on how to find and phase-in the use of certified green cleaning products that are proven to work and to save money for schools. Audio presentations include general information, and special sections on worker health, building maintenance, and the role of school leaders in establishing a green cleaning program. Free at <http://www.cleaningforhealthyschools.org>.

## **NEW VIDEO! Green Cleaning 2011 Webinars**

(Healthy Schools Campaign, Chicago, 2011)

Download a series of online seminars featuring national leaders and on-the-ground experts on green cleaning in schools. Titles include: Learn from the Leaders; Green Cleaning and Infection Control; New Technology and Green Cleaning; Dollars and Cents: Making the Financial Case for Green Cleaning; Process Cleaning for Healthy Schools; and Green Cleaning Award for Schools and Universities. Available at <http://www.healthyschoolscampaign.org/programs/gcs/2011webinars/index.php>.

### **Green Cleaning in Schools: A Guide for Advocates**

(Regional Asthma Management and Prevention, Oakland, Calif., 2010)

This 16-page guide discusses the importance of green cleaning in schools and four steps to initiate change. It is illustrated with fact sheets on improved environmental health and possible cost savings with green cleaning. Includes 33 references. The guide is available at <http://www.rampasthma.org/wp-content/uploads/2010/02/Green-Cleaning-In-Schools-A-Guide-for-Advocates1.pdf>.

### **New Research Links School Air Quality to School Cleaning Supplies**

(Environmental Working Group, Washington, D.C., 2009)

<http://www.ewg.org/files/2009/10/school-cleaners/EWGschoolcleaningsupplies.pdf>

Reports on tests of 21 cleaners used in 13 California school districts indicating that when used as directed, the products released six chemicals known to cause asthma, 11 contaminants that are known, probable, or possible cancer-causing substances in humans, and hundreds of other compounds for which there is little or no hazard information. In all, air testing revealed 457 chemicals emitted by these products. The results also showed that green cleaning supplies can reduce chemical exposure by releasing a lower overall number of measurable air contaminants. 48p. Download full report, or executive summary at: <http://www.ewg.org/files/2009/10/schoolcleaners/EWGschoolcleaningsupplies.pdf>

### **Breathing Easier**

(Regional Asthma Management and Prevention, Oakland, Calif., January 2009)

This 16-page report presents case studies of three California school districts that switched to green cleaning. The reasons for undertaking their respective programs, the products they use and how they obtain them, enforcement, and testing results from green-cleaned surfaces are discussed. Recommendations on how to convert to green cleaning, and a list of resources, are included. <http://www.rampasthma.org/wp-content/uploads/2009/11/Breathing-Easier-Report.pdf>

## **Guide to Green Cleaning: Healthier Practices and Products for Schools**

(Healthy Schools Network, Albany, N.Y., 2006)

This publication offers guidance to schools and parents concerning nontoxic cleaning practices and products.

8 pp. [http://www.healthyschools.org/documents/green\\_cleaning\\_guide.pdf](http://www.healthyschools.org/documents/green_cleaning_guide.pdf)

## **Fact Sheet: Schools and Cleaning Products**

(Green Squad, a project of the Natural Resources Defense Council and the Healthy Schools Network, 2005)

This activity sheet for students explains why using cleaning products correctly and buying the healthiest, safest products for use in schools is important. It suggests steps kids and schools can take to make cleaning a safer process.

2 pp. <http://www.greenflagschools.org/Cleaning.pdf>

## **Cleaning for Health: Products and Practices for a Safer Indoor Environment**

Culver, Alicia; Feinberg, Marian; Klebenov, David; Muskinow, Judy; Sutherland, Lara (INFORM, Inc., New York, N.Y., August 2002)

This report is a guide to environmentally preferable cleaning products and methods that have been effectively used in office buildings, schools, hospitals and other facilities in the United States and Canada. It describes pioneering product evaluation programs and lists the brands that were chosen based on environmental and performance criteria. It also provides a model specification, manufacturer contacts, and other resources for developing a safer cleaning program for buildings.

86 pp. <http://www.informinc.org/cleanforhealth.php>

## **The Green Cleaning Pollution Prevention Calculator**

(U.S. Environmental Protection Agency, Washington, D.C.)

This calculator can be used to quantify the projected environmental benefits of purchasing and using green janitorial services and products. It is designed to forecast the environmental benefits of reducing chemical use by

doing some or all pollution prevention measures typically involved in the routine interior cleaning of an office building. This tool also enables users to identify which green cleaning measures will have the greatest impact in reducing their use of hazardous chemicals and pollution. <http://www.fedcenter.gov/janitor/>

**Green Seal:** Green Seal is an independent, nonprofit organization dedicated to safeguarding the environment and transforming the marketplace by promoting the manufacture, purchase and use of environmentally responsible products and services. <http://www.allgreenjanitorialproducts.com/green-seal-products/19.htm>

**EcoLogo:** Founded in 1988 by the government of Canada but now recognized worldwide, EcoLogo is North America's largest environmental standard and certification mark. EcoLogo provides customers (public, corporate and consumer) with assurance that the products and services bearing the logo meet stringent standards of environmental leadership. <http://www.ecologo.org/en/>

### **Green Cleaning in Schools: Developments in State and Local Policy**

(Environmental Law Institute, Indoor Environments and Green Buildings Policy Resource Center, July 2011)

This regularly updated website summarizes selected state laws, proposed state legislation, and school district policies that promote environmentally conscious cleaning methods and materials in schools. [http://www.eli.org/Buildings/Green\\_Cleaning/index.cfm](http://www.eli.org/Buildings/Green_Cleaning/index.cfm)

### **National Clearinghouse for Educational Facilities**

has an extensive list of even more specific resources, for digging deeper into green cleaning. The list includes specific information on state laws, state and federal regulations; guidelines for certification; products; companies; and journal articles in trade publications that serve the education and cleaning communities. [http://www.ncef.org/rl/green\\_cleaning.cfm](http://www.ncef.org/rl/green_cleaning.cfm)



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