

The GREENGUARD Environmental Institute
Media Kit

GREENGUARD Children & SchoolsSM



The GREENGUARD Environmental Institute (GEI) is third-party organization that oversees the GREENGUARD Certification ProgramSM, the largest industry-independent certification program for low-emitting products. The program establishes standards for test methods, allowable emissions levels, product sample collection and handling, testing type and frequency and program application processes and acceptance. GEI's mission is to improve human health and quality of life through programs that improve indoor air quality.



As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments and buildings. GEI was founded by Air Quality Sciences, Inc, (AQS) an expert indoor air quality firm, in June 2001 to establish an independent third-party product certification program based on proven emissions standards and verification processes. The first GREENGUARD Certification was awarded in the fall of 2002. The **GREENGUARD Indoor Air Quality Certification Program** is for low-emitting interior building materials, furnishings and finish systems. The GREENGUARD Certification Program uses performance-based, field-validated standards to define products and materials with low chemical and particle emissions for use indoors. GREENGUARD requires products to be tested on an annual basis for more than 10,000 individual volatile organic compounds (VOCs).

The GREENGUARD Certification mark helps architects, builders, designers and specifiers identify products and materials that undergo rigorous testing and meet stringent standards for chemical emissions. Currently, more than 225 manufacturers voluntarily participate in the program and more than 200,000 products are represented in the GREENGUARD Certification Program and can be found in our free online product guide at www.greenguard.org.



In 2005, GEI developed a new standard and product certification for low-emitting building materials, furnishings and finish systems used in daycare, K-12 and healthcare facilities. An extension to the GREENGUARD Indoor Air Quality Certification Program, the **GREENGUARD Children & SchoolsSM Certification Program** was developed by evaluating the chemical sensitivities of children and the unique building characteristics of schools, and presents the most stringent product emissions criteria to date. Products certified under GREENGUARD Children & Schools meet the testing and performance criteria of CA DHS (Section 01350), and are specified in the USGBC's LEED[®] Rating Systems, the CHPS Best Practices Manual and the Green Guide for Healthcare as criteria for low-emitting materials. GREENGUARD Children & Schools follows the State of California's Department of Health Services Standard Practice (CA Section 01350) for testing chemical emissions from building products used in schools and office buildings.



In 2006, GEI introduced **GREENGUARD Building ConstructionSM**, a mold risk reduction program that for the first time "certifies" new constructed multi-family and commercial properties that follow best practice guidelines for preventing moisture and mold during the design, construction and ongoing operations of the building. In this program buildings undergo comprehensive evaluations and incorporate a series of steps for preventing moisture and fungal growth. Builders, developers and owners work closely with authorized building consultants to implement these guidelines in order to help inhibit indoor mold growth. The verification protocol that incorporates these principles is ANSI approved.



GREENGUARD Children & Schools Certification Program

WHAT:

The GREENGUARD Children & SchoolsSM Certification Program certifies indoor products based on strict chemical emissions criteria. Products such as paints, flooring, furniture, window treatments, mattresses, cleaners and electronics are tested and verified to meet the stringent Children and Schools standard. Certified products carry the GREENGUARD Children & Schools Certified mark, and they undergo periodic verification processes to remain certified. GREENGUARD Children & Schools Certification provides assurance, from an independent, third-party, that products have been tested to identify potentially harmful chemical emissions, and that the levels are within allowable limits selected by GREENGUARD from existing recognized third-party standards and guidelines.

WHY:

Chemicals emitted by products may affect everyone, but children are more vulnerable to indoor air pollution than adults. Their physiological systems are still developing, and they breathe at a faster rate than adults, taking in more air relative to their body weight. Indoor air pollution is typically 2-5 times higher than outdoors. Since children spend about 85 percent of their time indoors, they may face both short-term and long-term health risks due to indoor air pollution.

HOW:

The GREENGUARD Children & Schools standard requires products to satisfy strict emission limits on volatile organic compounds (VOCs), formaldehyde and respirable particles. Products are tested in specialized environmental chambers and their emissions released into the air are measured and compared against stringent health-based standards from the state of California's Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA) and other public health authorities.

The GREENGUARD Children & Schools Certification Program is overseen by the GREENGUARD Environmental Institute, an American National Standards Institute (ANSI) Authorized Standards Developer. It is a voluntary program open to all manufacturers. Certified products are recognized and specified by some of the nation's leading organizations focused on sustainability such as the United States Green Building Council (USGBC) LEED[®] program.

GREENGUARD CERTIFIED PRODUCTS:

The GREENGUARD Children & Schools Certification mark can be found on more than 110,000 products produced by over 100 manufacturers. By using products bearing the GREENGUARD Children & Schools Certified mark, parents can be assured that these products have been independently verified to meet some of the most rigorous chemical emission standards in the world. A list of all GREENGUARD Certified products can be found online at www.greenguard.org.

Lifestyle Choices That Put Children at Risk from Indoor Air Pollution

- Between 16% and 33% of children and adolescents are obese.
- In 2007, more than 25% of adolescents in grades 9 to 12 spent three or more hours per day using computers outside of school (25%) or watching television (35%).
- Nearly 60% (22 million) of children ages 3 to 11 years are exposed to secondhand smoke and about 25% of those children live with at least one smoker.
- Children who are exposed to environmental tobacco smoke (ETS) are more likely to develop lower respiratory tract infections, asthma, bronchitis, pneumonia, middle ear disease, sudden infant death syndrome (SIDS) and respiratory symptoms.
- The U.S. Surgeon General has determined there is no risk-free level of exposure to ETS.

Health Risks Associated with Indoor Air Pollution

- Airborne pollutants, including potential carcinogens, reproductive toxins and human irritants, are 2 to 10 times higher indoors when compared with outdoor levels and can be as much as 1,000 times higher in newly constructed and renovated indoor spaces.
- Indoor air in the United States is 2 to 5 times more polluted than outdoor air.
- People received their highest personal exposures to VOCs in homes (42% to 73%), followed by outdoors (18% to 34%) and offices (2% to 38%).
- Volatile organic compounds are among the most prevalent of all indoor air, with as many as 100 to 1,000 different VOCs in the air where children can easily inhale them.
- More than 200 commonly used industrial chemicals are able to damage the human brain; about 50% of these chemicals are considered high-volume production chemicals.
- A wide range of chemicals may cause adverse reproductive, developmental and neurotoxic effects, including metals (lead, mercury, manganese, arsenic and cadmium); organic solvents (methylene chloride, glycol ethers and trichloroethylene); pesticides (DDT, atrazine, chlorpyrifos, parathion and lindane); ETS and nicotine; and polychlorinated biphenyls (PCBs).
- Chemicals identified as endocrine disruptors include dioxins, PCBs, alkylphenols, bisphenol A, phthalate esters and various pesticides.
- Some chemicals may have health impacts at extremely low levels, which are not seen at higher levels, including genital changes, asthma and allergies in children.
- Exposure to very small traces of VOCs and some industrial chemicals in homes and schools can disrupt the endocrine system, gene activation and brain development.
- Children exposed to high levels of VOCs were 4 times more likely to develop asthma than adults.
- Damp buildings and exposure to mold bioaerosols are risk factors for developing asthma in children and not just in making asthma symptoms worse.
- The risk for developing asthma appears higher for, but is not limited to, children who are sensitive to mold allergens or who have parents with asthma.

Health Problems Linked to Indoor Air Pollution

Asthma

- Asthma is the most common chronic disorder in childhood, with more than 6.7 million children (9.1%) affected, one-half of which have allergic asthma.
- Nine million children under the age of 18 have been diagnosed with asthma at some point in their lifetime.
- Approximately 40% of children who have one or both parents with asthma also will develop asthma.
- Asthma accounts for 12.8 million missed school days each year.
- From 1980 to 1994, the proportion of Americans with asthma increased by 75%. In children under the age of 5, the proportion grew by 160%.
- Nearly 4 million children suffered an asthma attack in the previous year.
- Since 1980, the number of deaths among children with asthma under 19 years old has increased by nearly 80%.

Allergies

- Allergic rhinitis affects as many as 40% of children.
- As of 2006, 9% of children had been diagnosed with allergic rhinitis in the past 12 months.

Autism Spectrum Disorders

- Although there are currently no links between autism spectrum disorders (ASD) and chemical exposure, a recent review of scientific literature on the causes of neurodevelopmental disorders implicated a number of industrial chemicals including lead, methylmercury, polychlorinated biphenyls, arsenic and toluene.
- Estimates suggest around 6 in 1,000 people in the world have ASD, with more boys affected than girls.
- In the United States, 560,000 people ages 0 to 21 years have ASD.
- Autism spectrum disorder occurs in about 1 in 500 births in the United States, compared with Down Syndrome, which occurs in 1 in 800 births; juvenile diabetes, which occurs in about 1 in 400 or 500 children; and cancer, which occurs in 1.5 per 10,000 children.

Cancer

- Children undergoing treatment for cancer have suppressed immune systems, which make them more susceptible to adverse health effects from indoor air pollutants.
- In 2005, nearly 15 per 100,000 children ages 0 to 14 years and 17 per 100,000 children ages 0 to 19 years had cancer.

Developmental Disabilities

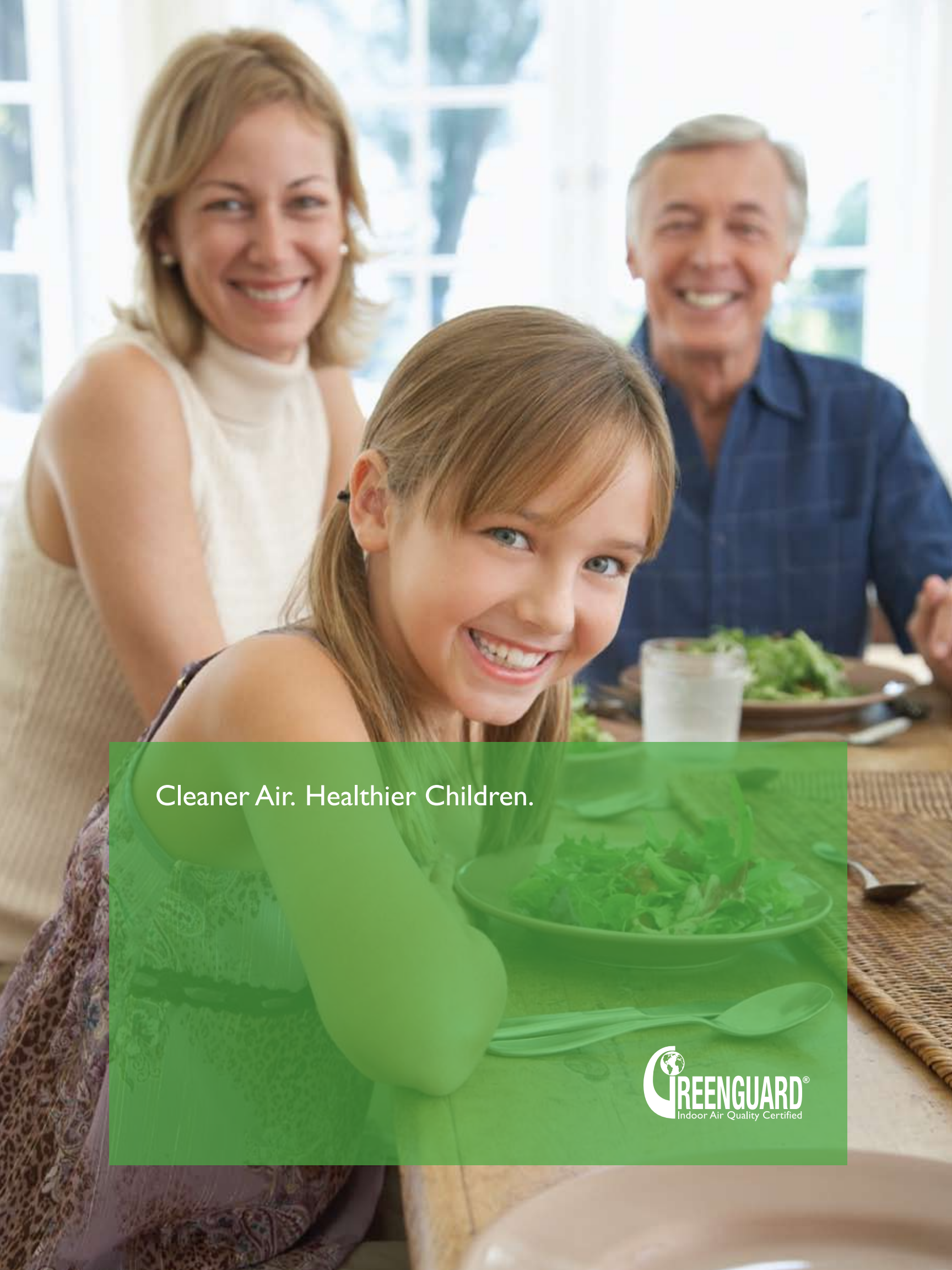
- Developmental disabilities affect 3% to 8% of the 4 million children born each year.

Children's Health Statistics

- Exposure to environmental toxins causes 3% of developmental disabilities.
- Interactions between environmental factors and individual genetic susceptibility cause 25% of developmental disabilities.
- About 10% of neurobehavioral disorders are caused by environmental toxins, excluding those caused by maternal alcohol, tobacco and drug abuse.
- One in six children experiences some form of neurodevelopmental delay, in many cases due to maternal alcohol, tobacco or drug use. In some children, the delays may be attributed to environmental toxins, such as lead, mercury, pesticides and solvents, or to nutritional deficiencies.

Learning Disabilities and Attention Deficit Hyperactivity Disorder

- In 2007, 4.6 million (8%) of children ages 3 to 17 years had a learning disability; 10% of boys compared with 5% of girls.
- About 4.5 million children, ages 3 to 17 years, had Attention Deficit Hyperactivity Disorder (ADHD). Boys are more than twice as likely as girls (10% and 4%, respectively) to have ADHD.
- White children (8%) and black children (8%) were twice as likely to have learning disabilities than Asian children (4%).
- In families with income of less than \$35,000, the percentage of children with a learning disability was twice that of children with a family income of \$100,000 or more (10% and 5%, respectively).
- Children in fair or poor health were almost 5 times more likely to have a learning disability than children in excellent health (28% and 6%, respectively), and more than twice as likely to have ADHD (16% and 7%, respectively).



Cleaner Air. Healthier Children.





Cleaner Air. Healthier Children.

Good indoor air quality is critical to providing healthy environments for children. One of the most important steps to protect children's health is to make sure the air they breathe indoors is clean and free of hazardous pollutants.

Research shows the air inside schools, homes, offices and other buildings can be two to five times more polluted than the air outside. While poor indoor air quality affects everyone, children are especially at risk.

Where do these pollutants come from?

Indoor furnishings, finishes and electronic equipment including, but not limited to, furniture, cabinetry, paints, flooring, fabrics, wall coverings, ceiling systems, computers and printers emit thousands of different contaminants into the air. Additionally, many cleaning agents and chemicals used in everyday life generate indoor air pollution.

In a single school or home, one can find ozone, formaldehyde, volatile organic compounds (VOCs), fine particles, mold spores and biological allergens. This is significant since children spend approximately 85% of their time indoors.

The solution: keep pollutants out in the first place.

By using GREENGUARD Children & SchoolsSM Certified products, parents, teachers and school officials can rest easy with the knowledge that these products meet established chemical emissions standards backed by one of the most rigorous third-party certification programs in the world.

CHILDREN RECEIVE MOST OF THEIR ENVIRONMENTAL EXPOSURE INDOORS.

Indoor Air Quality Impacts Health.

Most of our exposure to environmental pollutants occurs indoors through the air we breathe, and comes from products and materials we use every day. Ample scientific evidence exists that humans can be harmed by many of the chemicals to which they are exposed. In addition to triggering asthma and allergy attacks, health consequences of poor indoor air quality include flu-like symptoms, eye irritation, headaches, upper respiratory irritation, nausea, dizziness and nose bleeds.

Infants and school-aged children are more sensitive to the effects of poor indoor air because they are more vulnerable to environmental pollutants than adults. Their organs and respiratory, immune and neurological systems are still developing, and they breathe at a faster rate, taking in more air relative to their body weight. Children also breathe much closer to the ground, where heavier airborne chemicals can be easily inhaled. These factors combine to create a higher body burden of air pollutants for the same amount of exposure.

Those who have weakened immune systems can also be more vulnerable to harmful chemicals. This group can include older adults and people with chronic illnesses or suppressed immune systems from drug therapies, fatigue or stress. This condition can severely limit their ability to fight off infections and disease, and in general may make them more sensitive to irritants.

The foremost objective should therefore be to eliminate the sources of these pollutants and thereby significantly reduce human exposure to harmful chemicals.

Children exposed to high levels of VOCs were four times more likely to develop asthma than adults.





GREENGUARD Certification: Nurturing Indoor Air

Whether it is a home, school, business or hospital, people expect their indoor environments to be healthy and safe.

The GREENGUARD Environmental Institute is a third-party organization certifying products for low chemical emissions to improve indoor air quality. The GREENGUARD standards are among the most stringent product emissions standards in the world. Certified products undergo rigorous testing and ongoing verification to retain their certification. It is important to achieve a healthy environment, and just as important to maintain it.

The GREENGUARD Children & Schools Certification Program tests to standards that address the unique sensitivities of infants and children. Products used in day care centers, schools and other sensitive environments must meet strict requirements, including limits on chemicals such as phthalates that may impact child development.

By using GREENGUARD certified products, parents, teachers and caretakers can rest easy knowing these products are certified as low-emitting. GREENGUARD Certified products provide a solution to indoor air pollution and are proven to help achieve good indoor air quality.

Studies have shown that schools with better indoor air quality have improved attendance, higher test scores and the ability to attract and retain better teachers and higher performing students.



Products You Can Trust.

GREENGUARD Children & Schools Certified products are available worldwide, from leading manufacturers who are demonstrating their commitment to protecting indoor environments.

Over the past several years, availability of GREENGUARD Certified low-emitting products has increased significantly, leading to greater selection and competitive pricing. This means customers will not have to compromise on choice. When a product carries the GREENGUARD Children & Schools mark, customers can be assured it meets one of the most stringent health-based chemical emission standards in the world.

It's easy to specify GREENGUARD Children & Schools Certified products and materials. Just look for the GREENGUARD mark. For a comprehensive list, please visit the GREENGUARD Product GuideSM at www.greenguard.org.



“The addition of GREENGUARD Children & Schools Certified products provides design professionals and school administrators a broader selection of healthier, more environmentally sensitive products for their schools. Including the GREENGUARD Environmental Institute in our efforts furthers our mission by providing products that have been certified through a comprehensive and rigorous program.”

Charles Eley
Executive Director of CHPS

Collaborating for Sustainability.



GREENGUARD Certified products are recognized and referenced by the nation's leading sustainable organizations including:



U.S. Green Building Council's (USGBC) LEED® Green Building Rating System — A leading consensus-based national rating system for developing high-performance, sustainable buildings.



Collaborative for High Performance Schools (CHPS) — A program that oversees the nation's first green building rating system especially designed for K-12 schools to help them achieve environmental efficiency and healthy building practices.



Green Globes — A building environmental design and management tool that delivers an online assessment protocol, rating system and guidance for green building design, operation and management.

U.S. Department of Education — Supports equal access to education for all individuals and “promotes excellence” toward all students and educators. The department contains materials that help benefit teachers, parents, students and administrators.

The National Association of Home Builders' (NAHB) ICC700-2008 National Green Building Standard — An ANSI standard to establish practices for the sustainable design and construction of green residential buildings, building sites, subdivisions and renovation thereof. This standard is being adopted by states and municipalities nationwide as a means to 'green' their home building codes.

Furthermore, there are numerous local authorities across the country that recognize GREENGUARD Certification within their own green building codes.

GREENGUARD is also recognized as a resource for national organizations and institutions including:

- U.S. Environmental Protection Agency
- U.S. General Service Administration
- Healthy Schools Campaign



Take the first step toward improving indoor air quality:
Visit www.greenguard.org for a complete list of
GREENGUARD Children & Schools Certified products
or call 800.427.9681 for more information.





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