

Green Cleaning in Schools



Laws & Benefits



As someone who works in the cleaning business, it's impossible to escape the term “green cleaning.” It's been over twenty years since EnviroX introduced the world to its flagship product, H2Orange2. The intention of its inventor, Patrick Stewart, was to create a cleaning product that was both effective and less harmful to the environment and the people who used it. While that mission hasn't changed, the way the market thinks about green cleaning has evolved significantly. Sourcing and using greener cleaning products has gone from a nice bonus or a concern for a niche group of people to something that's demanded by customers or governments and other regulatory bodies. In this E-book, we'll take a look at the current state of green cleaning in schools. Whether you're new to the concept, or just want to find out more about it, we've got you covered.

What is Green Cleaning?

Let's start with this because the truth is that there are a lot of different definitions of green cleaning. Some of the more ethically-flexible marketers of cleaning products can use the fuzziness of this definition to their advantage. They pass off chemicals as "green," despite the fact they still contain large amounts of toxic components like ammonia, ethylene glycol monobutyl acetate, sodium hypochlorite, and trisodium phosphate. Green cleaning is also a term that's been applied to home-brewed cleaning products whose recipes are freely available on blogs across the internet. The problem is, these home-brew products can be fine for some light cleaning but can often be ineffective.

Before we put forth our definition of green cleaning, let's examine some truths that you should always keep in mind when thinking about a green cleaning product:

Three Green Cleaning Truths

- 1. "Natural" DOES NOT AUTOMATICALLY EQUAL Safer or Greener**
There is much in the world that occurs naturally that you would not want to ingest, inhale, or touch.
- 2. Products Can Claim to Be Green Without Being Green**
The FTC (Federal Trade Commission) regulates deceptive marketing practices. They have had a "Green Guide" since 1992; however, this is a guide, not a legal requirement. So, what is or isn't considered green can vary significantly from company to company.¹
- 3. Green Cleaning encompasses a wide variety of practices**
We'll be concentrating mostly on cleaning products in this E-book because that's a big enough topic as it is. But, realize that Green Cleaning also involves optimized cleaning processes and equipment too.

The objective of cleaning for health is to achieve the best cleaning result with the lowest toxicity necessary.

Green Cleaning Products are specially formulated to reduce or eliminate harsh and potentially harmful chemicals. They use renewable resources, such as citrus, seed and vegetable oils. They are designed to work in cold water to conserve energy. Their formulation, training and process is intended to limit the use of disinfectants to high-touch points.

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- A photograph of green cleaning supplies including a brush, a sponge, and a glove, set against a green background.
- **Environmental Benefits**
 - **Health Benefits**
 - **Economic Benefits**

What are the Benefits of **Green Cleaning?**

Above are three main benefit areas to consider with a green cleaning program. There's a reason that green cleaning has shifted from an activist's concern to a standard that's embraced by organizations and governments.

We'll be taking a look at these in greater detail in a moment, but first, let's tackle the main reasons against green cleaning.

Expense:

There is a worry that green cleaning products can come at a premium. This can be the case. Very often, cheap ingredients are used in cheap products. Entirely synthetic components can be easier and less expensive to procure. But they also run the risk of having more hazards associated with their use.

However, as more companies embrace the use of renewable natural resources, the cost of these components can go down in price because there is more investment in their production. On the flip side, some ingredients are petroleum-based or based on other non-renewable natural resources. The cost of these can be volatile.

The truth is, you might be surprised by how economic green cleaning products can be. At EnvirOx, for instance, we use concentrates and hyper-concentrates. Doing this reduces the number of plastics that go into packaging and the carbon footprint of transport costs. The small amount of product that's needed when diluting in water means the cost-per-ounce can be less than what you're paying now. These savings can be significant in comparison to RTU (ready to use) products.

Effectiveness:

Not all green cleaning products are created equally. Experience with poor-performing cleaning products in the past might have left you with a negative view of them. Indeed, some of the “home-brew” products suggested on blogs can be less than sufficient. Or, at the very least, not appropriate for cleaning an entire facility.

Nature provides us with some potent solvents, which help power cleaning. We built EnviroX based on the usage of naturally-procured solvents like orange oil, and many others have tried to replicate the proprietary formula we use. The problem is that to be effective, just the right amount of each ingredient is needed. You should be wary of manufacturers who load their products up with detergents, often because they’ve cut corners in the quality of other ingredients. This can leave behind residue that attracts dirt and makes your floors slippery, sticky, or dingy.



Now that we've looked at the reasons people might choose not to go with a green cleaning solution, let's look at the benefits of green cleaning in more detail.

Environmental Benefits

- Reduces the release of harmful chemicals into the environment. Although precautions can be taken to minimize this, cleaning chemicals end up in our environment.
- Volatile organic compounds (VOC) in cleaning products are released through vaporization during use and can affect indoor air quality and also contribute to smog formation in outdoor air.³
- Some ingredients can cause issues in wildlife and aquatic populations. For example, alkylphenol ethoxylates are often used as surfactants in cleaning products. These can disrupt the endocrine system and lead to reproduction complications.



Health Benefits

- Just as harmful chemicals are released into the environment above, those same chemicals can be inhaled and absorbed by janitorial staff as they work.
- The chemicals used in cleaning products can be harmful to humans. This includes all the occupants of the buildings you clean, but children are especially more vulnerable. When cleaning schools, especially K-12, this is something you should consider.



Why are Children More at Risk?

- Children breathe 4 to 6 times more air than adults, and they breathe close to the ground where pollutants in the air tend to concentrate.⁴
- Children have more skin covering their bodies relative to their weight than adults. Children have more skin contact with the floor because of their size and behavior. This fact means they can absorb more pollutants that concentrate on the floor through their skin.⁴
- Children eat more food per pound of bodyweight than adults. They are also more vulnerable to foodborne illnesses.⁴
- Children's hand to mouth behavior means they eat more dust than adults. Dust contains many toxic chemicals from cleaning products, pesticides, furnishings, and other sources.⁴

Here's a table of some standard components found in regular cleaning products. We've provided the harmful effects of these components. Then we illustrate the less harmful substitute we use, using one of our cleaning products as an example.

| Harmful component/ Adverse effect | Cleaning Product Usage | H2O2 Orange Cleaner |
|--|---|---|
| <p>Ammonia</p> <ul style="list-style-type: none"> • Cause of asthma in cleaning workers • Can trigger asthma in children⁴ | <p>Stain remover</p> | <p>H2O2 – Hydrogen Peroxide</p> |
| <p>Bleach</p> <ul style="list-style-type: none"> • Irritant to eyes, skin, and respiratory tract⁴ • If Ammonia and bleach are mixed, it produces a highly toxic chlorine gas | <p>Oxidant stain remover</p> | <p>H2O2 – Hydrogen Peroxide</p> |
| <p>Phthalates</p> <ul style="list-style-type: none"> • Endocrine disruptor, increases risk of allergies and asthma, can affect children's neurodevelopment and thyroid function⁴ | <p>Found in fragrances</p> | <p>Orange Oil</p> <ul style="list-style-type: none"> • Phthalate-free. Used for its fresh orange scent |
| <p>Ethanol Hydrocarbon</p> <ul style="list-style-type: none"> • Poisonous to humans, may be a carcinogen. | <p>Solvent stain penetrator and lifter</p> | <p>Orange Oil</p> |

Green cleaning products seek to reduce or eliminate the usage of these chemicals. The benefits for both custodial staff and building occupants are clear. You're helping to reduce serious issues – both long and short term.

Economic Benefits

We've touched on the possibility that green cleaning products, especially if you're going from an RTU solution to concentrates, could save you money. But this might not always be the case.

The Ashkin Group's Total Green Cleaning Cost Survey showed the following costs associated with green cleaning. Now, remember that this doesn't factor in dilution methods, concentrate volumes, and processes. At EnvirOx, these are all factors that we take into account with our products, and they can help make it even more affordable. This chart is purely a comparison of cost, but even with that factored in, you can see that the majority of people surveyed kept their costs the same or increased by no more than 10%.

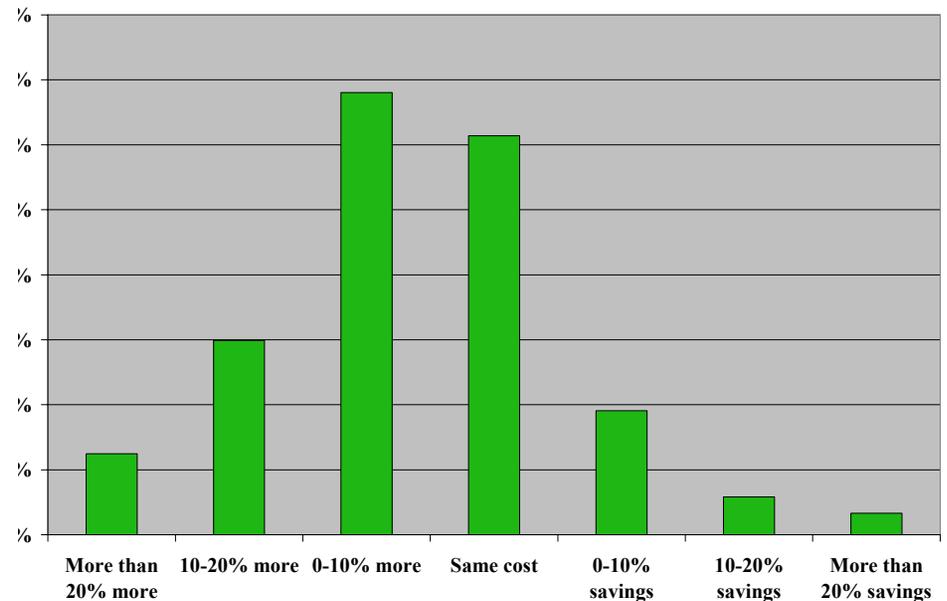


Figure 1: Chart comparing green cleaning costs.⁵

That doesn't mean that going green can't help your bottom line. Here are some economic benefits of going green with your cleaning:

State/County Financial Incentives: All across the country, there are incentives for green cleaning, sometimes wrapped up in the broader topic of “green buildings.” In fact, there are so many it would be impossible to cover them all here. But here are the typical areas these incentives fall under:

Tax Incentives

Bonus Density

Expedited Permitting

Net Metering

Grants (including fee subsidization)

Loans

Technical Assistance/Design Assistance

Permit/Zone Fee Reduction

Rebates and Discounts on Environmental Products (e.g., Energy Star)

Leasing Assistance⁶

How does green cleaning work into all of this? Some programs may specify green cleaning. Many, however, mention "LEED" ratings. You may be well aware of LEED and how it works, but check out our sidebar if you aren't. Cleaning products that are LEED-certified can help you earn credits in the "IEQ" (Indoor Environmental Quality) category. Often financial incentives from states and counties require a certain LEED level.

| | Green Seal Certified (GS-37) | UL EcoLogo 2759 Certified |
|---|--|--|
| <p>Absolute Cleaning System</p>  | <ul style="list-style-type: none"> • EnviroX Green Certified Neutral Floor Cleaner Hyper-Concentrate • EnviroX Green Certified Multi-Purpose Cleaner Hyper-Concentrate | <ul style="list-style-type: none"> • EnviroX Green Certified H2O2 Orange Cleaner Hyper-Concentrate • EnviroX Green Certified Industrial Degreaser Hyper-Concentrate • EnviroX Green Certified Mineral Shock Concentrate • EnviroX H2O2 Orange Tile and Grout Renovator Hyper-Concentrate |
| <p>Traditional (E2B2) Cleaning System</p>  | <ul style="list-style-type: none"> • EnviroX Green Certified Neutral Floor Cleaner • EnviroX Green Certified Multi-Purpose Cleaner | <ul style="list-style-type: none"> • EnviroX Green Certified H2O2 Orange Cleaner • EnviroX Green Certified Industrial Degreaser • EnviroX Green Certified Industrial Degreaser RTU • EnviroX H2O2 Orange Tile and Grout Renovator • EnviroX Green Certified Mineral Shock RTU |

LEED Certification

LEED Certification is a way of rewarding sustainable and environmentally friendly decisions. They apply to BOTH new construction and existing buildings. There are five areas that LEED certification looks at:

- Building Design and Construction
- Interior Design and Construction
- Building Operations and Maintenance
- Neighborhood Development
- Homes⁷

These areas are broken down into more specific topics, and then ratings are assigned to each. These points (or credits) are tallied, and building are assigned one of the following categories:

CERTIFIED 40-49 Points

SILVER 50-59 Points

GOLD 60-79 Points

PLATINUM 80+ Points⁷

Other Financial Benefits Tied to Health: These benefits are what we like to think of as a “two for one.” We’ve already gone over some of the health benefits. At EnvirOx, making the buildings all of us work and study in safer and healthier is one of our core missions. We also want to improve the health and safety of custodians and other cleaning professionals across the country. We truly believe all of us working together toward this goal can significantly impact our world. The best part about this? Improving the health and safety of people can also have positive dollars-and-cents benefits for organizations!

Improved worker health: This can reduce lost staff-hours due to injury or illness brought on by the harmful effects of harsher cleaning products, health insurance costs, and possible worker's compensation claims.

Improved occupant health: Improved school performance due to reduced chronic illnesses caused by harsher chemicals and improved indoor air quality. For schools, improved student performance can help in obtaining more funding.





"Greenwashing" and How to Avoid it

This is a term that was coined by environmentalist Jay Westerveld in 1986 which refers to advertising a product as “green” even though it is, in fact, harmful to health and/or the environment. ⁸ So, it’s not a new concept. But that hasn’t stopped companies of all kinds from trying to curry favor with those concerned with the environment without really following through.

There are two main reasons you should be concerned with “Greenwashing”:



- Is your purpose is to reduce your impact on the environment, make work conditions safer for your staff, and make the buildings you clean safer for their occupants? If so, then you need to make sure you aren't falling prey to deceptive marketing.
- If you're trying to follow your state's green cleaning laws or build toward LEED credits, then you want to make sure the cleaning products you

How to Avoid the "Greenwashing" Trap

The best way to avoid this is to do some research. Does the company engage in other green initiatives?

In other words, do they walk the talk? Also, when it comes to the products they're offering, make sure they're certified. There are third-party agencies that provide certifications on green cleaning products. Each of these organizations has strict criteria for evaluating cleaning products. The four main certifications are Green Seal, EcoLogo, EPA Safer Choice, and USDA BioPreferred. In the case of EPA registered products, be sure that the company can back-up the safety and health profile of the product.

Green Seal

- Green Seal is frequently found in green cleaning mandates for schools and government facilities.
- Certifies: Green Seal certifies a vast array of items, services, and businesses. Anything from a coffee filter to a restaurant can be Green Seal Certified.
- Hard Surface Cleaning Product Standard: GS-37.



Key Requirements:

- Product performance testing — Products must perform as well as or better than similar nationally-recognized products.
- Limited oral/dermal toxicity
- Minimal VOCs
- No carcinogens
- Reduced carbon footprint through chemical concentration and packaging⁹

EPA Safer Choice (formerly Design for the Environment)

- The EPA's Design for the Environment/Safer Choice label is for safer chemical-based products
- Frequently found in federal, state, or municipal green purchasing mandates
- Certifies: Cleaners, including carpet cleaners, laundry detergents, graffiti removers, and personal care products



Key Requirements:

- Full Ingredient Disclosure
- On-site audits of manufacturing facilities
- Product performance testing
- Meets toxicity standards for environmental and human hazards⁹

EcoLogo

- EcoLogo is frequently found in green cleaning mandates for schools and government facilities.
- Certifies: Building materials, cleaning products, office products, and electronics. EcoLogo is a certification program within UL, which itself certifies thousands of products, both consumer and commercial.
- Hard Surface Cleaning Product Standard: UL 2759.

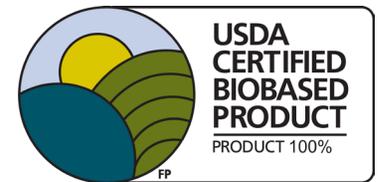


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USDA BioPreferred

- The USDA BioPreferred certification includes mandatory federal purchasing as well as voluntary labeling of bio-based products.
- Certifies: Wide variety of federally-purchased goods, including cleaners, lubricants, stains, and inks



Key Requirements

- Minimum Biobased Content: Products must contain a certain amount of bio-based ingredients that are plant-derived or derived from renewable resources vs. traditional petroleum⁹

EPA Registration VS Third-Party Certification

One point of confusion you might encounter. What is the difference between EPA registration and third-party certification? For instance, EnviroX's line of H2Orange2 products is EPA registered. Most of our other products are green certified either by EcoLogo or Green Seal.

EPA-registered products, like disinfectants, sanitizers, and virucides, aren't eligible for third-party green certifications other than the EPA's own Safer Choice. This is an EPA regulation. However, if a product is EPA-registered, the bacterial and viral kill claims, the environmental impact and toxicity have all been verified by third-party sources.

|  <h3>H2Orange 112</h3> |  <h3>H2O2 Orange Cleaner</h3> |
|--|--|
| <p>EPA-Registered</p> <p>Cleaning Uses:</p> <ul style="list-style-type: none"> • Glass cleaner • Stainless steel polish and cleaner • Neutral floor cleaner • Restroom cleaner • Carpet spotter • Carpet cleaner • Food degreaser • Tile & grout renovator | <p>Green Seal Certified</p> <p>Cleaning Uses:</p> <ul style="list-style-type: none"> • Glass cleaner • Stainless steel polish and cleaner • Neutral floor cleaner • Restroom cleaner • Carpet spotter • Carpet cleaner • Food degreaser • Tile & grout renovator |
| <p>Sanitizer</p> | <p>Sanitizer</p> |
| <p>Virucide</p> | <p>Virucide</p> |
| <p>Degreaser</p> | <p>Degreaser</p> |
| <p>Deodorizer</p> | <p>Deodorizer</p> |



Green Cleaning and the Law

As we stated before, at the federal level there are guidelines, not laws governing green cleaning. At the state level, however, it's a different story. Right now, eleven states and the District of Columbia have policies in place that promote green cleaning practices in schools.

The Environmental Law Institute is an excellent resource for this, as they keep an up-to-date list of policies for these states and any new states that might add them. Policies can vary significantly from state to state.

Some states make it mandatory, while others simply provide a framework for schools to build their greener school cleaning programs. Some, like New York, will provide lists of approved cleaning products.

Each state provides different resources for implementing green cleaning in schools. Check out the url below for links for each of these states. At EnviroX, we can provide you with any documentation you may need to certify that our products meet green cleaning requirements. This includes Safety Data Sheets (SDS) and green certification documents.



Links to these documents and other resources will be available at:
www.enviroxclean.com/greencleaningschools

We're Here To Help

Thanks for reading our latest E-book. For future access to all our E-books, and to keep up to date with our latest informative articles and blogs, we invite you to [join our newsletter](#).

If you'd like to learn more about our products and our Train in Ten™ system or arrange a no-risk trial:

**Call [1-800-281-9604](tel:1-800-281-9604) or
email sales@enviroxclean.com**

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