



INCREASING TRANSPARENCY OF ENVIRONMENT AND HEALTH CLAIMS FOR CLEANING PRODUCTS



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Today, the market for so-called greener¹ cleaning products represents an important and growing segment in the industrial and commercial cleaning products marketplace. In the U.S. alone, sales of greener cleaning products more than doubled between 2007 and 2011, from \$303 million to \$640 million², suggesting that future growth of such products will outpace that of non-green cleaning products. The U.S. Federal Government is also using its massive purchasing power to support the procurement of environmentally-responsible goods, including cleaning products used by janitorial services, under Presidential Executive Orders 13423 and 13514.³

As the market for greener cleaning products grows, however, so too does the use of generic or otherwise vague claims about a cleaning product's environmental or health characteristics. In many instances, these claims reflect honest efforts by manufacturers to promote specific product benefits that will hopefully appeal to buyers. However, the practice of "greenwashing," that is, making misleading or unsubstantiated claims about a given product's environmental benefits, has actually led to greater confusion in the marketplace, and increased suspicion among buyers about the value of such claims.

This UL white paper discusses the certification of more sustainable industrial and commercial cleaning products, and the value of multi-attribute environmental product certification and other verification methods based on industry protocols and other objective criteria. The paper begins with a brief overview of the environmental and health-related issues associated with the use of cleaning products, and then discusses the various aspects of greenwashing commonly found in connection with the marketing of cleaning products. The white paper then presents the essential aspects of a trusted certification program for sustainable cleaning products, and concludes with a look at efforts to increase environmental transparency in the positioning of cleaning products.





The Challenges of Conventional Cleaning Products

The demand for green cleaning products has resulted from a number of separate but complementary factors. The first factor was the emergence of the modern environmental movement,⁴ and an increased focus on human behaviors that contributed to polluting the planet. As part of this focus, conventional cleaning products came under scrutiny for their potentially harmful effect on the environment. For example, some cleaning products contain chemicals such as phosphorus or nitrogen that, when released in waste water, can impact the quality of soils and water supplies and potentially compromise vegetation and aquatic life.

A second factor in the demand for green cleaning products has been the increased focus on energy-efficient buildings as a means of conserving natural resources and reducing emissions from the burning of fossil fuels. To achieve these goals, commercial and residential structures are being constructed or renovated in order to better secure a building’s exterior. However, a tighter building envelope also means that less outdoor air is being circulated indoors. As a result, emissions from cleaning products, as well as building materials and furnishings, can linger in the air for longer periods of time, leading in some cases to so-called “sick building syndrome.”

One illustration of the adverse effects of poor indoor air quality is the increase in

certain medical conditions. For example, the incidence of asthma, which can be triggered by exposure to volatile organic compounds (VOCs), frequently found in cleaning products, has reportedly doubled over the past 20 years and now affects one in every six Americans.⁵ A separate study found an approximately two-fold increase in incidents of asthma among healthcare workers involved in the cleaning and disinfecting of medical instruments or other general cleaning tasks.⁶

A third factor driving the demand for green cleaning products is the growing concern regarding the safety of conventional cleaning products. Conventional cleaning products can contain toxic or cancer-causing agents or

UL’s ECOLOGO® Certification Program for Sustainable Cleaning Products

UL’s ECOLOGO environmental product certification process uses stringent, multi-attribute, consensus-based standards to confirm that products offer reduced environmental and health-related impacts throughout their entire lifecycle. Applicable ECOLOGO product standards are currently available for cleaning chemicals, sanitary paper and plastic products, as well as some building materials and flooring, and printing operations. Each ECOLOGO standard sets metrics for a host of environmental criteria, which can include:

- Materials
- Product performance and use
- Human health impacts
- Environmental impacts
- Waste diversion
- Natural resource conservation
- Recyclability
- Product stewardship and innovation

ECOLOGO’s certification process includes the following steps:

1. Consultation — A manufacturer submits a summary of requested certification services. UL reviews submitted materials and provides the manufacturer with a proposal for services. Once an agreement has been reached, UL assigns an environmental product manager to the engagement.
2. Certification assessment — The project manager develops a plan for the certification of the product, and the manufacturer submits requested documents for review. Then, UL personnel conduct the review of submitted information, testing and/or auditing required for certification. Upon completion of these steps, the manufacturer receives an evaluation report.
3. Award of certification and licensing — Based on a successful evaluation, UL formally awards certification. Once the manufacturer has signed the licensing agreement, they may begin using the

ECOLOGO certification label on the certified product.

4. Post-certification auditing and review — UL conducts routine audits and/or testing to ensure ongoing compliance with the current version of the applicable sustainability standard.

UL’s ECOLOGO mark is classified as an ISO Type 1 eco-label. The mark contains critical components designed to address new marketplace demands, which require manufacturers to clearly explain the basis for their product certifications. The ECOLOGO mark includes a qualifying statement, a standard number the product is certified to, and a URL (www.ul.com/el) that allows buyers to connect with online information about the certification process and specific standard.

Finally, cleaning products that receive ECOLOGO certification are posted to UL’s public access Sustainable Product Guide (www.ul.com/spg), allowing buyers to quickly and easily identify certified cleaning products that meet the rigorous requirements of applicable ECOLOGO standards.



Volatile Organic Compound	Common Use	Potential Health Effect
Ethylene glycol	Spot remover	Hormone disruptor
Acetaldehyde	Fragrance/disinfectant	Carcinogen
Acetone	Surface cleaners	Neurotoxin
Butoxyethanol	Surface cleaners	Carcinogen
Isopropanol	Disinfectant	Neurotoxin
Isobutene	Aerosol cleaners	Dizziness, drowsiness, nausea, vomiting, et
D'Limonene	Orange fragrance	Skin and respiratory irritants
Methyl methacrylate	Hard surface cleaner	Asthmagen
Phenol	Disinfectant	Neurotoxin

Figure 1: Common VOCs, their use and potential health effects

ingredients: ethylene diamine tetraacetic acid (EDTA) or nitrilotriacetic acid (NTA), sodium hypochlorite (commonly known as chlorine bleach) or phosphates. Even when used as directed, cleaning products containing these chemicals can come in direct contact with human skin or be released into the air. Potential adverse health effects range from irritation of the skin, eyes or throat to asthma, hormone imbalances, neurological disorders and cancerous malignancies.

Recent research has identified a number of human health risks associated with exposure to cleaning products. In one study, janitors and building cleaners reportedly experienced job-related injuries due to chemical exposure to cleaning products at the rate of 6% per year.⁷ In other research sponsored by the U.S. Environmental Protection Agency (EPA), one out of every three conventional cleaning chemicals used by those who clean public buildings contains ingredients known to cause human health or environmental problems.⁸

The analysis of the typical uses of cleaning products containing VOCs shown in Figure 1 illustrates the extent

of the potential adverse effects from just one type of cleaning ingredient.

The Role of “Greenwashing” in Making Claims for Green Cleaning Products

To meet the demand for cleaning products with reduced environmental and health effects, manufacturers are bringing to market a growing array of reformulated cleaning products claiming to provide some environmental and/or health-related benefits. Indeed, according to UL’s latest research, the number of so-called green cleaning products being offered by manufacturers has increased by 105 percent since 2009 alone.⁹

In addition to the challenges of developing effective cleaning products with reduced environmental impact and minimal health risks, manufacturers must also determine how to effectively promote the features and potential benefits of their products without resorting to invalid or unproven claims. Unfortunately, “green” and other terms that commonly connote some kind of environmental benefit are vague at best, leading even well-intentioned manufacturers to make inaccurate or misleading claims regarding their

company’s environmental practices, or the environmental or health-related performance of their products. This practice, commonly referred to as “greenwashing,” undermines otherwise well-intentioned efforts to educate buyers and leads to greater confusion and mistrust in the marketplace.

In efforts to position or promote the environmental or health-related benefits of a given product, greenwashing typically takes one or more of the following forms:

- **The “hidden trade-off” claim** — This form of greenwashing occurs when a manufacturer suggests that a product is “green” based on only one or two attributes, while ignoring other important environmental characteristics. For example, sanitary paper is not necessarily “environmentally-preferable” simply because it comes from a sustainably-harvested forest. Other factors in the paper production process, such as energy use, greenhouse gas emissions, and water and air pollution, may be just as important.
- **The absence of proof claim** — Environmental claims without



proof cannot be substantiated by easily accessible supporting information, leaving it to the buyer to determine the validity of the claim. A common example is the use of the “biodegradable” claim on a cleaning chemical product without providing the test method as proof.

- **The vague claim** — Some environmental claims are so broad or so poorly defined that their real meaning is likely to be misunderstood or misinterpreted by the buyer. For instance, cleaning products often claim to be “natural” or “non-toxic,” but these terms can be considered misleading without further substantiation or elaboration.
- **The irrelevant claim** — Other environmental claims may be truthful and accurate, but are unimportant or unhelpful for buyers attempting to evaluate competitive products. To claim that an aerosol product is free of chlorofluorocarbons (“CFC-free”) for example is irrelevant since their use is banned by law.
- **The “lesser of two evils” claim** — In this case, an environmental claim may be true but risks distracting the buyer from more significant environmental aspects of a given product. For example, a cigarette could be labeled “organic” but still expose smokers to harmful health effects.
- **The false claim** — Some environmental claims are simply false or inaccurate. In some cases, manufacturers

falsely claim that their products are “ENERGY STAR-certified” or “ENERGY STAR-registered,” when they are not.

- **False or misleading labeling** — Finally, some manufacturers use images or words that imply third-party endorsement of their products’ environmental characteristics, even though no such endorsement exists. For instance, some “fake” environmental labels can be purchased for use through the Internet for a few dollars.

In addition to confusing buyers, the practice of greenwashing may subject manufacturers to enforcement

actions related to truth in advertising regulations and standards. Under U.S. Federal Trade Commission (FTC) regulations, for example, the validity of any product claim is dependent upon how a typical buyer (including consumers, but also government and institutional purchasers) would interpret that claim. Under Section 5 of the FTC Act, the agency can take enforcement action against companies who use deceptive claims in the labeling, marketing or promotion of their products, including cease and desist orders and financial penalties.¹⁰

The FTC’s Green Guides provide manufacturers with guidance on acceptable labeling and marketing





claims for the environmental characteristics of products, including cleaning products. First issued in 1992 and most recently revised in 2012, the Green Guides outline general principles that apply to all environmental labeling and marketing claims, as well as recommendations on how marketers can qualify their claims to avoid misleading buyers. Although the guides are intended only as guidance documents and are not a substitute for FTC regulations, they offer extensive information that can help manufacturers develop and promote valid environmental claims for their products.¹¹

Eco-Labels: The Good, the Bad and the Ugly

The cleaning industry is not a newcomer when it comes to making and marketing greener products. One of the more mature industries in the green marketplace, cleaning product manufacturers have been using environmental certifications and green marketing claims for decades. In fact, UL's research found that 32 percent of the cleaning products it surveyed displayed a verifiably legitimate eco-label.¹² Despite these gains, however, greenwashing continues, making the process of identifying legitimate environmental or health claims difficult for buyers and consumers alike.

According to one estimate, there are more than 440 different eco-labels in use by 25 industry sectors in 197 countries around the world.¹³ However, not all eco-labels are equal. To illustrate, the International Organization for Standardization (ISO) has developed a categorization scheme for eco-labels

and declarations regarding product environmental claims, as follows:

- **Type 1 (ISO 14024: 1999, Environmental labels and declarations** — Type 1 environmental labeling-principles and procedures)-Type 1 labels and certifications/declarations affirm compliance with pre-determined, multi-attribute, lifecycle-based environmental performance requirements for products within the same category.
- **Type 2 (ISO 14021: 1999, Environmental labels and declarations** — Self-declared environmental claims (Type 2 environmental labeling)-Type 2 labels and declarations reflect environmental performance claims made solely by the product manufacturer. The environmental performance criteria have neither been defined nor accepted, and have not been independently verified.
- **Type 3 (ISO 14025-2006, Environmental labels and declarations** — Type 3 environmental declarations-principles and procedures)-Type 3 eco-labels and certifications/declarations present objective, quantifiable, lifecycle-based environmental information about a product in a consistent manner. Also known as Environmental Product Declarations (EPDs), Type 3 eco-labels are based on product category rules set by an independent body.

Unfortunately, the use of illegitimate or false eco-labels is also on the rise. False

eco-labels are readily available for use by anyone with access to the Internet and a few dollars to spend (just enter the search terms “certified green,” for example). According to UL research, more than 32 percent of products claiming some environmental benefit displayed a fake eco-label, up from 27 percent in 2009.¹⁴

Selecting an Appropriate Eco-Label Certification Program

As defined by the ISO, the type of eco-label signifies the scope of the environmental performance criteria as well as the party responsible for validating conformity. Therefore, legitimate product certification and eco-label programs can often take divergent approaches in their evaluation and validation of products, and cleaning products displaying different types of ISO-recognized eco-labels may not offer comparable benefits when it comes to environmental and/or health and safety performance.

Some of the key factors to consider when evaluating a product certification program include:

- **Availability and transparency of standards** — Standards developed and regularly reviewed and updated through a consensus-process generally provide the necessary level of science-based objectivity. Standards that are publicly available and easily accessible also allow for greater transparency and a more thorough understanding of the criteria against which products are being evaluated.
- **Attributes evaluated** — Standards used to evaluate products can



address one or more environmental and health characteristics. A single attribute eco-label can be helpful in addressing critical impact areas such as indoor air quality or sustainable forestry management. A multi-attribute standard evaluates the overall sustainability of a product, assessing impacts from resource extraction to disposal as well as a product's environmental and health characteristics.

- **Post-certification compliance** — Credible certification programs subject certified products to reevaluation, random audits, and recertification when new standards or requirements are introduced or products are reformulated. Others allow products to maintain their certification without demonstrating compliance with the new requirements. This approach can result in similar certified products with markedly different environmental or health characteristics.

Manufacturers can further promote the environmental and health aspects of their cleaning products by obtaining certification from a qualified, independent third-party and by displaying the authorized certification label or mark on product packaging. Product certification and the authorized use of a certification label/mark provide buyers with assurances that the product offers reduced environmental and health impacts. These assurances make a positive contribution to a product's brand reputation, and can be an important market differentiator.

Certification programs that are based on consensus standards, that utilize independent third parties to evaluate multiple product attributes, and that require recertification when revised standards are introduced or products are reformulated, provide buyers with the broadest possible assurances regarding a product's environmental and health characteristics. Manufacturers can benefit by taking these factors into account when evaluating sustainable certification programs for their products.

Toward Greater Transparency in Cleaning Products

A new trend emerging in the cleaning products industry is the expanded disclosure of product information. Transparency tools are now available that allow any manufacturer to share details about product characteristics with prospective buyers. Available transparency tools range from those based exclusively on manufacturer-supplied data to product certifications based on evaluations conducted by independent third-parties.

However, not all transparency tools actually help buyers determine whether a cleaning product is actually "greener" or more sustainable than a similar product. For example, a manufacturer may wish to make their cleaning product more appealing to certain buyers by highlighting important environmental characteristics that exceed the requirements of a given eco-label certification. At the same time, a manufacturer of a potentially harmful cleaning product can provide product data that is of little value in determining environmental performance or assessing risk. As such, a given transparency

tool may simply provide data without identifying whether a product actually meets rigorous sustainability standards.

ISSA, the Worldwide Cleaning Industry Association, launched its Transpare® online cleaning product registry in May 2013, to help buyers compare chemical cleaning products based on their environmental, safety and health attributes. The Transpare registry allows manufacturers to list individual cleaning products along with product profiles that highlight those environmental, health and safety characteristics of greatest importance to specific buyers. Manufacturers may also choose to have their information verified by Transpare and a third-party. When used in conjunction with qualified eco-label certification programs, the Transpare registry allows manufacturers to distinguish their cleaning products in a highly competitive market.¹⁵

Cleaning product manufacturers may also want to consider the use of environmental product declarations (EPDs) as a tool to provide buyers with additional information about their product's overall environmental impact. Categorized as a Type III eco-label by the ISO, an EPD is a comprehensive, independently-verified disclosure of the environmental impact of a product throughout its entire life cycle. A typical EPD might include information on a product's carbon footprint, and its potential impact on global warming, ozone depletion, acidification of land and water, eutrophication (an impact of water pollution), photochemical ozone creation, and the depletion of abiotic resources.

EPDs are already in widespread use in the building products industry, where the Leadership in Energy and Environmental



Design (LEED) program awards credits for those projects utilizing products accompanied by an EPD. Buyer requirements are likely to drive the expanded use of EPDs in other industries, including cleaning products. Therefore, cleaning product manufacturers can demonstrate environmental leadership by adopting EPDs for use with their products.

When effectively applied, sustainability certifications, EPDs and product registries such as Transpare are complementary mechanisms that serve to increase environmental information and transparency. As buyers of industrial and commercial cleaning products drive the demand for products that offer superior environmental and health-related performance, cleaning product manufacturers can gain important competitive advantages by leveraging the unique characteristics of each of these mechanisms in connection with their products.

Summary and Conclusions

The environmental and health risks associated with conventional cleaning products are expected to support increased growth in the market for green industrial and commercial cleaning products. However, false and unsubstantiated environmental claims are widely used, making it difficult for buyers to identify cleaning products that feature superior environmental and health-related characteristics. Third-party sustainability certification can be an important tool for cleaning product manufacturers seeking to differentiate their products, while EPDs and product registries can increase environmental transparency by providing buyers with more comprehensive environmental impact information.

For further information about UL's ECOLOGO Certification for industrial and commercial cleaning products, email environment@ul.com.

In addition to ECOLOGO Certification and Environmental Product Declarations (EPDs), UL also provides other certification, validation and testing services to support manufacturers of sustainable products. UL's GREENGUARD Certification evaluates products for low chemical emissions, contributing to better indoor air quality and healthier indoor environments. UL's Environmental Claim Validations (ECVs) affirm single-attribute environmental claims such as recycled content, zero waste to landfill, and bio-based content. Finally, UL offers corporate sustainability certification and advisory services in support of company-wide sustainability programs and sustainable manufacturing facilities.

For more information about these and other environmental and sustainability services, visit www.ul.com/environment.



- ¹ In this paper, use of the terms “green” and “greener” includes all types of environmental product marketing, ranging from a manufacturer’s own label to claims of third-party certifications and verifications.
- ² “Green Cleaning Products in the U.S.,” Industry report by Market Research.com, August 31, 2012. Web. August 27, 2013. <http://www.marketresearch.com/Packaged-Facts-v768/Green-Cleaning-Products-7114196/>.
- ³ “Green Janitorial Services,” U.S. Environmental Protection Agency website. Web. 3 September 2013. <http://www.epa.gov/oaintrnt/practices/janitorial.htm>.
- ⁴ The first Earth Day celebration was held on April 22, 1970, in which millions of Americans participated in demonstrations and rallies across the country in favor of a health, sustainable environment. See “Earth Day: The History of A Movement,” Earth Day Network. Web. 10 December 2013. <http://www.earthday.org/earth-day-history-movement>.
- ⁵ “Asthma,” U.S. Centers for Disease Control and Prevention. Web. 21 August 2013. <http://www.cdc.gov/asthma/>.
- ⁶ “Occupational Risk Factors and Asthma Among Healthcare Professionals,” Delclos et.al., American Journal of Respiratory and Critical Care Medicine, April 1, 2007. Web. 3 September 2013. <http://www.atsjournals.org/doi/full/10.1164/rccm.200609-1331OC>.
- ⁷ “Greening Your Purchase of Cleaning Products: A Guide for Federal Purchasers” See Note 5.
- ⁸ Cited in “Responsible Sourcing Goes Mainstream—Governments Demand High-Quality, Safer, and Affordable “Green” Products,” Scot Case, April 2006. Web. August 28, 2013. <http://www.gogreengcommunities.org/Library/PDF/ResponsibleSourcing.pdf>.
- ⁹ “The Sins of Greenwashing, Home and Family Edition, 2010,” p.24. Web. 10 December 2013. <http://www.sinsofgreenwashing.org/index35c6.pdf>.
- ¹⁰ “Advertising FAQs: A Guide for Small Business,” U.S. Federal Trade Commission, Bureau of Consumer Protection. Web. 4 September 2013. <http://business.ftc.gov/documents/bus35-advertising-faqs-guide-small-business>.
- ¹¹ “FTC: The Green Guides,” U.S. Federal Trade Commission. Web. 4 September 2013. <http://www.ftc.gov/os/fedreg/2012/10/greenguidesstatement.pdf>.
- ¹² “The Sins of Greenwashing” p. 24. See Note 9.
- ¹³ “Ecolabel Index,” Ecolabel Index Advisory Services. Web. 10 December 2013. <http://www.ecolabelindex.com/>.
- ¹⁴ “The Sins of Greenwashing” p. 20. See Note 9.
- ¹⁵ Additional information about the ISSA Transpare Registry is available at www.transpare.com.