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COVER STORIES

Spread Of Ecolabels Vexes Cleaning Product Makers

Cleaning products companies aren't fond of the seals, lists, and guides but they participate in them nonetheless

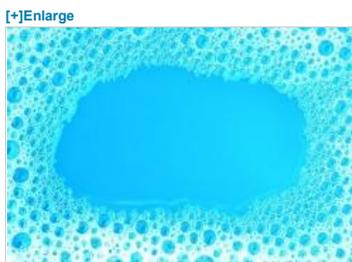
By Michael McCoy

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Seventh Generation prides itself on being a trusted marketer of environmentally friendly household and personal care products. The Vermont-based company derives its name from a traditional Iroquois law requiring that people consider the next seven generations when they make decisions.



Credit: Shutterstock

In late 2011, **Seventh Generation** launched a new laundry detergent very much in line with these values. The firm reduced shipping and storage requirements by cutting dosing in half, and it packaged the detergent in a plastic bag surrounded by a shell of postconsumer newspaper and cardboard.

The product's biggest breakthrough was a cleaning agent, or surfactant, developed with the French chemical maker **Rhodia**. Seventh Generation tries to make its products with ingredients made from plants rather than petrochemicals. Plant-derived alcohols are the backbone of its surfactants, but to create an effective cleaning ingredient, chemical companies must react the alcohols with ethylene oxide, a chemical typically derived from oil or natural gas.

Rhodia's achievement was to manufacture a surfactant, laureth-6, with the ethylene oxide coming from sugarcane. By incorporating the new chemical, Seventh Generation was able to boost the renewable-ingredient content of its laundry liquid from 77% to 97%.

Early last year, Seventh Generation added the surfactant to its other laundry detergents. "It's hard to overstate just how big this is," said Chief Executive Officer John Replogle. "It's a cleaning industry holy grail of sorts, and something we've been working on for a long time."

A few months later, however, the company learned that not everyone was impressed. The **Environmental Working Group** (EWG), a Washington, D.C.-based activist organization, launched an online guide to healthy cleaning that grades more than 2,000 household cleaners from A through F. The new laundry detergent of which Seventh Generation was so proud received a D. The reason: its use of boric acid, which at least one study has linked to hormone disruption.

"Disappointment was our mildest reaction; shock was the strongest," says Martin Wolf, Seventh Generation's director of product sustainability and authenticity, about the grade. "We think it's a great product."

EWG's graded guide joined the growing ranks of environmental certification seals, preferred ingredient lists, and consumer product guides available in the U.S. and around the world. Although some of these services assess consumer goods broadly, cleaning products are special targets because they contain chemicals that the average citizen comes into contact with every day.

Proponents of the seals, lists, and guides say they help manufacturers create safer cleaners and help consumers make better-

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informed buying choices. Many ingredient suppliers and cleaning product companies, however, contend that consumers are merely confused by the proliferating lists and guides. Moreover, companies argue that they take a narrow view of product safety that ignores broader environmental sustainability goals such as renewable-ingredient content and reduced energy consumption.

But like them or not, the seals, lists, and guides—ecolabels for lack of a better word—can't be ignored. The University of Michigan's [Erb Institute for Global Sustainable Enterprise](#) recently completed a study of the ecolabeling landscape for [Dow Chemical](#). One conclusion, according to Kate Geraghty, global sustainability leader for Dow's consumer and industrial solutions division, is that demand for such labeling is on the rise.

Yet industrial customers have trouble extracting the information they need from their ingredient suppliers to win accreditation, the study found. "I want to make it easier for our customers to choose to formulate with Dow technology," Geraghty says. Beginning this year, she adds, customers can visit Dow's website and select cleaning product ingredients accredited by several prominent ecolabels.

Ecolabeling got its start in the 1980s with government consumer product certification programs such as the EcoLogo labeling system, created by the Canadian government in 1988, and the Nordic Swan system, which debuted in Northern Europe in 1989. The European Union launched the pan-European [Ecolabel](#), which sports a flower as its symbol, in 1992.

Nonprofit organizations also got into the labeling act. Green Seal was launched in the U.S. in 1989 as the country's first environmental certification program. In 2009, Underwriters Laboratories started the UL Environment certification program and since then has acquired several certification organizations, including the firm that manages the EcoLogo program.

The U.S. Environmental Protection Agency began advocating for safer consumer products in the early 1990s through its [Design for the Environment](#) (DfE) program. By the early 2000s the program had adopted a safer-chemistry focus that included the DfE seal, which the agency grants to cleaning products that meet its standards.

One of the first lists of cleaning product ingredients was the Greenlist, created by the consumer goods maker [SC Johnson](#) in 2001. A third-party list arrived in the mid-2000s when the business-focused nonprofit GreenBlue launched CleanGredients, a database of ingredients that meet DfE human and environmental health criteria. [CleanGredients'](#) core offering to subscribers is a list of approved surfactants, solvents, chelating agents, and fragrances plus companies that supply them.

In recent months, EPA has come out with its own Safer Chemical Ingredients List of cleaning product raw materials as a companion to DfE certification. CleanGredients is now expanding in parallel to broaden its directory of ingredient suppliers to include makers of preferred polymers, colorants, builders, and defoamers. And the [American Cleaning Institute](#), a trade association for the cleaning products industry, recently launched an inventory of ingredients that its members formulate into cleaning products.

The third ecolabel category, product guides, is also booming. One of the first, launched in 2007, was [GoodGuide](#), an online service that provides environmental, health, and social data on consumer products. UL Environment acquired GoodGuide last August from its venture capital backers.

In 2011, the Whole Foods "natural" foods supermarket chain debuted a rating system for cleaning products called [Eco-Scale](#). Then in September 2012, EWG unveiled its online Guide to Healthy Cleaning. [ISSA](#), an association of commercial and institutional cleaning companies, is now in the process of rolling out a cleaning product assessment guide it calls [Transparent](#).

The proliferation of ecolabels puts cleaning product companies and their raw material suppliers in a delicate position. Many are ambivalent about the environmental benefits of the seals, lists, and guides. At the same time, at least some cleaning product firms see the labels as a point of differentiation, and chemical manufacturers want to support those customers.

However, as becomes clear during a walk down the cleaning products aisle of any conventional supermarket or big box store, Tide, Wisk, Fantastik, Dawn, Cascade, and most other major cleaning products sitting on the shelves don't carry ecolabels and make little mention of their environmental impact.

EPA's website for DfE, arguably the most successful environmental seal for cleaning products, boasts hundreds of products that have pursued and been granted a DfE label. But most of them are either institutional cleaners or obscure brands manufactured by small companies. No consumer cleaning product from [Procter & Gamble](#), the largest U.S. laundry detergent manufacturer, bears EPA's DfE label. P&G didn't respond to C&EN's requests for comment.

EPA says any number of organizational, technical, or financial reasons may explain why some companies participate in the DfE program and others don't. "We are hopeful that ongoing outreach and our planned redesign of our logo will encourage more companies to develop products that meet our stringent criteria," the agency says. Last year, EPA entered a pact with NASCAR, the auto racing association, aimed at raising consumer awareness about the benefits of products that have earned the DfE label.

[Henkel](#) is one large consumer products company that has embraced the DfE seal. In 2008 its Purex Natural Elements laundry detergent became the first mass laundry brand to win DfE recognition. In 2011, after a reformulation to include a sugar-based surfactant, Henkel's Soft Scrub bath and bowl cleaner won DfE recognition.

Pamela Lam, vice president of R&D for the home and laundry care business of Henkel North America, recalls that her firm began to seriously study the sustainability of its products in the mid-2000s. At the same time, it saw a growing market among consumers who would respond favorably to environmentally friendly products that bear seals such as DfE.

Although Lam can't say why Henkel's laundry-aisle competitors haven't similarly pursued certification, she notes that Purex Natural

Elements continues to stand strong whereas other "green" brands have come and gone. She suspects consumer recognition of DfE will grow slowly but steadily, in the same way that the U.S. government's Energy Star label took many years to become recognized by consumers as the sign of an energy-efficient appliance.

Wolf, the product sustainability leader for Seventh Generation, says the firm has sought and received DfE and other certifications for some of its products because retailers have requested it. But he is generally not a fan of seals, lists, and guides.

"Our position is that a logo or certification on a product means it has met a minimum threshold," he says. "If two products are on a shelf and one meets the standard and one greatly exceeds it, the consumer doesn't know. So we rely on our own set of standards." In effect, he adds, Seventh Generation's own name is its environmental seal.

The firm makes an exception for the U.S. Department of Agriculture's **BioPreferred** seal, which was launched in 2011 to certify products that are entirely or significantly made from renewable agricultural ingredients. In fact, the new laundry detergent containing the Rhodia surfactant received one of the first-ever BioPreferred labels.

Wolf, who helped USDA develop the label, says Seventh Generation sought it because it specifies degree of agricultural, or biobased, content. The firm's products typically exceed 90% or 95% biobased content, more than that of its competitors, he adds.

Dow's Geraghty also has issues with ecolabels. Although Dow supports cleaning product industry customers that are striving to obtain environmental seals, she understands why most of the big brands eschew them. "I don't consider a product carrying an ecolabel as being more sustainable than a large-volume cleaning chemical that doesn't carry an ecolabel," she says, provided the owner of the large-volume brand participates in sustainability programs sponsored by the American Cleaning Institute (ACI) or its European counterpart.

Dow's biggest beef with the seals is that they tend to assess the potential hazard of a consumer product, rather than the risk posed in actual use. In addition, she says, the seals typically don't weigh the environmental impact of a product over its entire life cycle.

Geraghty feels the same way about lists of preferred cleaning product ingredients. She argues that decisions about what substances qualify for the lists often don't take into account the biggest environmental impact of laundry and dishwashing detergents: the water and energy used by consumers during actual use.

"In addition to lower hazards, substances should be chosen that result in lower energy, water, and waste footprints," Geraghty says. "The resulting overall human and environmental risk from a switch to a presumably safer ingredient shouldn't increase compared to existing technologies, nor should any risk be shifted to other parts of the value chain."

Another problem with preferred-ingredients lists, Henkel's Lam notes, is that they are static and fall out of date soon after being released. "Our scientists will use them as a reference but not necessarily as a bible," she says. "New technology comes up every day."

Conversely, Seventh Generation's Wolf argues, lists of prohibited products, such as the Red List of undesirable chemicals assembled by the environmental group **Clean Production Action**, can be gamed by manufacturers. He cites the example of a consumer products company that replaced the solvent ethylene glycol monobutyl ether, considered a hazardous substance in California, with ethylene glycol monohexyl ether, a similar solvent that doesn't show up on prohibited product lists, possibly because it's less frequently used and thus under the radar.

Chemical companies grumble about ingredient lists, yet they also participate in them. Dow, Geraghty points out, has registered a number of surfactants, solvents, and polymers with CleanGredients.

In 2011, **BASF** trumpeted the certification of its Trilon M chelating agent by DfE, calling it the first product to meet DfE criteria for chelating and sequestering agents. Known generically as methylglyncinediacetic acid, Trilon M was added to a number of automatic dishwasher detergents after phosphates were banned from such products by 16 states in 2010.

Trilon M is also listed in the CleanGredients database. In all, BASF says, 59 of its products are registered with CleanGredients, and more are added every year. The company points out that many state procurement programs require institutional cleaning products to carry DfE or Green Seal certification. "As such we have seen a large increase in that market," the firm says.

Product guides, the third ecolabel category, are the newest and potentially the most powerful force. Whereas seals such as DfE are affixed only to products being lauded as environmentally friendly, ratings assigned by guides can range from a perfect 10 to a dismal zero, in the case of UL's GoodGuide, or A to F in the case of EWG.

Guides are also the most controversial. On the same day that EWG launched its cleaning guide last fall, ACI issued a press release slamming it as being full of distorted information on safe cleaning products. The organization's main complaint is the same one leveled by Dow's Geraghty—that EWG assesses ingredients on the basis of their potential hazard rather than the actual risk of using them in small quantities in cleaning products.

"It is a fact that anything can be safe or unsafe—it all depends on the amount," said Brian Sansoni, ACI's vice president of communication. "Manufacturers work to ensure that they use levels of ingredients that are 'just right'—in that they provide a benefit in the products but at the same time are safe."

The EWG guide is the product of almost a year and a half of effort by the organization's research staff, according to David Q. Andrews, a senior scientist at the environmental group. Although GoodGuide already existed, he says EWG sought a guide

specifically tailored to cleaners that's based on a more complete and thorough review of ingredients. "We felt there were a number of places where GoodGuide didn't meet a simple reality check on some ingredients," he says.

The laundry detergent Seventh Generation launched in 2011 got its D because of the environmental group's concerns about boric acid, an ingredient added to many liquid laundry detergents to stabilize cleaning enzymes. The European Commission puts boric acid on a list of substances for which endocrine disruption has been documented in at least one study of a living organism.

Seventh Generation's Wolf is of two minds about the grade. On the one hand, he notes that Europe's conclusion about boric acid is based on a study of borax mine workers. He says there's no evidence of a similar problem when exposure is to a cleaning liquid in home use. Moreover, boric acid is the only effective stabilizer for enzymes, which are natural ingredients that enable laundry detergents to clean effectively at low temperatures and with reduced surfactant content.

On the other hand, Wolf agrees that the environmental group is correct to take a hazard-based rather than a risk-based approach to assessing cleaning ingredients. "We don't quite agree with the way they are weighting this material when scoring our product, but we do support what they are trying to accomplish," he says.

The jury is still out on whether EWG's guide will influence consumer behavior or prompt cleaning product makers to change their ingredients. Andrews says the guide has already received several million page views and is gaining momentum. And Seventh Generation is working with Novozymes and DuPont, the two leading enzymes companies, on alternative stabilizers, according to Wolf. "Someday I hope you will see an A or a B for that product because the boric acid is gone," he says.

The mainstream cleaning products industry is more skeptical about the way products are being rated and certified, but it acknowledges that the process can have value if done correctly. Paul DeLeo, ACI's senior director for environmental safety, points out that product ratings come with an inherent value system against which the rating is applied. "Deciding that one chemical is safer than another depends on how you set up your criteria and what's important to you," he says.

For example, one laundry detergent ingredient could be marginally less safe than another, DeLeo says, yet it meets goals for energy and water use. Thus, in a larger product life-cycle or sustainability context, it has a more beneficial environmental impact. "To get overly myopic on chemicals that are being used safely has the potential to be problematic," he says.

DeLeo is watching the proliferation of seals, lists, and guides with interest. Although he is cautious about the specific criteria used by some ecolabel developers, he understands the impulse to measure the environmental impact of cleaning products.

"Everything is heading in the direction where sustainability is quantitative rather than just narratives about the wonderful things we are doing," DeLeo says. "In the future, I hope we will be able to cut through the BS and find out who is really making a difference."

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Comments

james (01/28/2013 at 11:00 AM)

Given EWG's behavior and total ignorance on many many scientific issues, I actually tend to take the opposite of their recommendations to heart. and 7th generation cant have it both ways, a weighting of hazards is a form of risk assessment, they clearly want to do risk assessment their way but not call it risk assessment because among their more chemophobic customer base "risk" can be a code-word for 'industrial doublespeak'.

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Jeff (02/18/2013 at 3:33 AM)

The question on any new eco-label is really to me, is there a gap that actually needs to be addressed?

No labelling schemes are perfect (although some are definitely better than others); but ISO14024-accredited eco-labels that are kept up to date definitely differentiate better and worse (environmental performing) products, and being transparent in what is assessed.

Relying on "trust me" isn't the solution either. Seems to me some management in the field maybe would quite like buyers either being greenwashed by broad corporate stewardship programs that never actually gets to grip with redesigning the actual products for minimizing environmental impacts; or simply giving up in confusion at a welter of competing claims and buying on price or advertising imagery.

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