

*Features – Shifting Markets*

**THE BUSINESS CASE FOR TRANSITIONING  
TO SAFER CHEMICALS**

**ROGER D. MCFADDEN**

**ABSTRACT**

Emerging domestic and international chemical regulations and a heightened consumer awareness of chemicals of concern in products is challenging American businesses to reevaluate and reconsider their approaches to supply chain management and product design. Some of these companies recognize business opportunities and are responding proactively with innovative strategies and tactics. This article describes steps that Staples Inc., the world's largest office products provider, is taking to meet demand for products that are safer and more sustainable. In trying to meet the demand for safer products, Staples faces significant barriers, including the complexity of supply chains, data gaps, and confidential business information. New collaborations between companies, government, and advocates, and improved tools and criteria for defining safer products enhance the ability of businesses, like Staples, to meet new consumer demands.

**Keywords:** chemicals management, chemicals of concern, green chemistry, product ingredient disclosure, retailers, safer alternatives

We all take risks. It's a part of our everyday lives, and a part of day-to-day business. But assessing and effectively managing risk has challenged American business as of late. Risk analysts report that key indicators and warning signs

often precede accidents. Businesses that recognize and respond appropriately to these indicators can avoid or minimize adverse externalities and impacts to businesses, customers, and communities.

Some American product makers, businesses, and downstream users are responding to indicators, warning signs, and risks—in the form of chemical exposure and human health impacts. If companies misjudge these risks and warning signs, it could mean, yet again, that American businesses lose an opportunity to demonstrate innovative leadership, build a stronger, more sustainable future, and create shared value for their business, customers, and communities.

Some organizations are confronting these risks head-on and see the value of taking a proactive and collaborative approach to managing chemicals in their supply chains. This article describes how Staples views the challenge of alternatives assessment and outlines the steps the company is taking to offer safer and more sustainable products.

### **GROWING DEMAND FOR TRANSPARENCY AND SAFER ALTERNATIVES**

Chemicals are not created equal when it comes to human and environmental health. One chemical may facilitate a cure for cancer while another chemical may cause a cancer. The lack of understanding of the low-dose or cocktail effects of various chemicals, along with the scarcity of toxicity data, has obscured a clear delineation between a chemical of cure and a chemical of harm.

A lack of chemical information can have the unintended consequence of allowing unwanted chemicals to enter products, business supply chains, homes, the environment, or the human body. Retailers and distributors are scrambling to respond sufficiently to a growing awareness and demand by downstream users for greener and more sustainable products that are free of chemicals that pose a serious risk to human and environmental health.

In April 2010, a panel of cancer experts appointed by President George W. Bush sounded an alarm when they reported, “In effect, our lives have become a giant, uncontrolled experiment on the relationship between toxic chemicals and our health” [1]. Downstream users are troubled by two biomonitoring and body burden studies recently published by the U.S. Centers for Disease Control and Prevention (CDC) and the Environmental Working Group (EWG). The studies revealed low levels of a significant number of chemicals of high concern in breast milk and in the umbilical cord blood of newly born babies [2–3]. Consumer concerns were elevated when some of the same chemicals of high concern detected in these biomonitoring studies were also detected in consumer products collected from the shelves of major retailers [4–5].

There is confusion and uncertainty about the relationship between chemicals of high concern detected in products and biomonitoring studies. The lack of scientific certainty about a direct correlation has caused a disagreement among

experts on how to tackle the issue. One group of experts will argue that there is no need to be overly concerned or take action until a direct correlation is proven with scientific certainty. Another group of experts will argue that since human health is at issue, a more immediate precautionary approach should be taken. Downstream users find this disagreement between experts perplexing. The uncertainty and lack of agreement between experts has led a growing number of consumers to ask product makers, retailers, and distributors to be more transparent about chemicals in products. Consumers in essence are asking suppliers: tell us what chemicals of high concern are in your products and let us decide if we want to allow them into our homes, businesses, or supply chains.

### **POTENTIAL RISKS TO BUSINESSES, CONSUMERS, AND COMMUNITIES**

Business reputation, profitability, and brand integrity can be negatively impacted when undisclosed or unknown chemicals of very high concern are discovered in products. For example, toy makers and retailers experienced adverse economic consequences generated by supply chain disruption, product recall, replenishment costs, and company remediation costs when lead was discovered in several children's toys [6–7].

Retailers and distributors can potentially inherit—and are forced to confront—a host of risky issues related to chemicals of concern in products and their supply chains. Retailers risk losing customers or the confidence of customers if they sell them products with undisclosed chemicals of high concern. The awareness of American consumers about the risks associated with a lack of chemical information and disclosure is growing. A survey conducted by the Safer Chemicals, Healthy Families Coalition found that 84 percent of Americans expressed concern when they were told that the U.S. Environmental Protection Agency (EPA) has mandated testing of barely 200 out of the more than 80,000 chemicals that have entered the market. It is clear that American consumers want to know more about chemicals of concern in the consumer products they are buying and using [8]. An emerging green market includes eco-labeling, green product ratings systems, random testing by consumer watchdog groups, and monitoring by regulators to detect undesirable chemicals in products. The growing consumer awareness and regulatory trend toward ingredient disclosure has many product makers, retailers, and distributors scrambling to find ways to respond.

### **BENEFITS OF DISCLOSURE AND SAFER ALTERNATIVES**

Identifying and disclosing chemicals in products will not only help businesses meet a growing demand by downstream users, but will also help them manage

risk, verify compliance, inform decision-making, discover innovative opportunities, and offer more sustainable choices to customers.

Many suppliers are embracing an increased chemical transparency policy that is comprehensive and inclusive, places a priority on eliminating hazards, encourages innovation, and rewards disclosure. Some businesses, such as Kaiser Permanente, have incorporated the precautionary principle as part of their safer alternatives policy. Kathy Gerwig, Kaiser Permanente's Vice President for Workplace Safety and Environmental Stewardship, has been a strong advocate for transitioning towards safer alternatives. She noted that at Kaiser Permanente, "we've taken a cautious approach to materials, meaning that where there is credible evidence that a material we're using may result in environmental or public health harm, we should strive to replace it with safer alternatives" [9]. This prudent precautionary approach can act as a catalyst to begin the process of shifting toward safer alternatives. For example, Staples took action to eliminate polyvinyl chloride (PVC) from its own brand packaging materials after recognizing there was credible evidence that the material may result in environmental harm.

Communities get economic as well as health benefits when products containing chemicals of concern are replaced with safer alternatives. A recent report by Columbia University professor Peter Muening found that the state of New Jersey could save as much as \$27 billion in costs by keeping children free of lead poisoning [10].

Product makers are at a crossroads. For nonregulated chemicals, a product maker can currently choose to disclose or not disclose. Many product makers resist public disclosure of ingredients and view it as a business risk. They view their ingredients as trade secrets, intellectual property, or confidential business information and fear that public disclosure of this information could pose a financial risk to their enterprise. However, a growing number of product makers and businesses recognize there is a regulatory trend toward requiring public disclosure of ingredients. These companies view this as an opportunity to develop new approaches that generate greater innovation and growth by getting ahead of regulations. These companies also know that transparency is important to their customers. For example, a product maker's unwillingness to disclose could result in being locked out of selling their products to consumers and businesses that place a high value on transparency and disclosure [11].

### **STAPLES' STRATEGY FOR TRANSITIONING TO SAFER ALTERNATIVES**

Staples is committed to helping ensure a healthy environment for future generations. From innovative, environmentally friendly products to carbon and energy initiatives, Staples strives to make it easy for customers, associates, and the communities it serves to work together in protecting the environment.

This includes offering customers a wide assortment of environmentally preferable products, operating their business in a sustainable manner, and providing recycling and other services to help customers meet their environmental goals [12]. Staples views the transition to safer alternatives and more sustainable materials as part of its commitment to help ensure a healthy environment for future generations, and recognizes the need for a strategy to create an orderly transition to meet customer demand for products that are safer and more sustainable.

At the same time, Staples understands the complexity of and challenges associated with collecting, managing, and accurately reporting progress. Despite these challenges, Staples recognizes the value of being informed about materials in the products it distributes and uses in its operations.

Staples, in collaboration with nongovernmental organizations (NGOs), government partnership programs, and its suppliers is working to transition to and offer a wide assortment of alternative products that are designed using green chemistry. The Business-NGO Working Group for Safer Chemicals and Sustainable Materials (BizNGO) is an organization developing tools to help companies transition more effectively toward safer alternatives. For example, businesses and NGOs in the working group collaborated to develop guiding principles for chemicals policy, which outline the path to greener and safer chemicals [13]. Staples embraced these principles as guidance to transition towards more sustainable and safer materials and products.

Staples' specific strategy for transitioning to safer chemicals, materials, products, and processes is twofold. First, for products for which Staples owns the design and full formulation, a comprehensive and rigorous sustainability product design model is used to eliminate chemicals of concern at the design or redesign stage of a product. Secondly, for products for which Staples does not own the design or full formulation, suppliers are asked to disclose whether specific undesirable chemicals are intentionally added to products—so that Staples can transition to safer alternatives.

### **Transitioning to Safer Alternatives When Staples Owns the Design and Full Formulation**

At Staples, Green Chemistry means the design of products and processes that reduce or eliminate the use and generation of hazardous substances [14]. One area in which Staples has made significant progress in eliminating the use and generation of hazardous substances and transitioning to safer alternatives is in their own brand of cleaning products. Cleaning products are beneficial and can help improve the health of the built environment, maintain a safe workplace, preserve assets for building owners, and maintain overall aesthetics. At the same time that Staples acknowledges these benefits, it recognizes that some traditional cleaning product formulations contain undesirable chemicals identified in green

cleaning product standards including Green Seal, UL Environmental, and the Design for the Environment (DfE) Safer Product Labeling Program at EPA.

The commitment by Staples to design its own brand of safer cleaning products has its origin in 2009 when Staples acquired Coastwide Laboratories, with headquarters near Portland, Oregon. Coastwide is a nationally recognized leader and formulator with a long history of designing cleaning products with safer alternative ingredients. Scientists and engineers at Coastwide adopted a rigorous green chemistry and product design model, resulting in the development of safer, high-performance products. While formulators such as Coastwide Laboratories do not synthesize chemicals per se, the ingredient choices made by scientists at Coastwide and Staples have resulted in the development of a growing number of safer alternatives and more sustainable products in their research laboratory.

### **Staples Design Objectives and Strategy**

A fundamental principle in Staples' safer alternatives strategy is to acknowledge clearly that designing or offering a safer alternative does not necessarily signify that the current product is unsafe. The product transition pathway is most often from safe to safer and rarely from unsafe to safe. Informed substitution is a worthwhile objective and can avoid the unintended consequences of regrettable substitution. But lately, Staples is finding success in shifting the discussion with suppliers away from making substitutions for chemicals of concern in products to one focused on making alternatives assessment a fundamental component of product design.

The company's design strategy includes several key components. First, Coastwide Laboratories/Staples created a rigorous sustainable product design system to set positive, realistic, and measurable criteria for product efficacy and human and environmental health benefits. The system requires a credible, independent, scientifically informed, third-party review of all ingredients being considered for use to understand the potential human and environmental health and life cycle impacts. The system strategy takes a hazard-based approach and places a priority on the elimination of the unwanted chemical at the product design stage. Once life cycle impacts and hazards are evaluated, safer alternatives are identified, and cost analysis and performance are assessed. For example, full formulation disclosure is submitted to scientists at the EPA DfE Partnerships for Safer Chemistry where a Green Screen is conducted to assess and compare the chemical of concern with the safer alternative [15, 16].

The sustainable product design strategy used by Staples moves well beyond simple ingredient substitution. It results in innovative new formulations with remarkable and surprising benefits due to ingredient synergies. For example, Staples scientists applied this sustainable product design strategy to build a product for cleaning mass transit vehicles. The resulting formulations were

benign hybrid surfactant systems designed to preserve the efficiency of function while reducing toxicity, and to ensure that at the end of their function they do not persist in the environment and that they break down into innocuous degradation products.

It was the collaboration with chemical suppliers, combined with the Clean Production Action (CPA) Green Screen, that led Staples scientists to discover a way to design cleaning products without the use of problematic ingredients such as alkyl phenol ethoxylates, nonyl phenol ethoxylates, and 2-butoxyethanol traditionally used to formulate cleaning products. The alternatives assessment indicated that specific plant-derived surfactants, cornstarch glucose, and natural fatty alcohols qualified as safer, cost-neutral alternatives without sacrificing performance.

Another example of how Staples is applying this collaborative product design approach with its own brand is the design of safer plastic alternatives in its packaging materials, avoiding the need for polyvinyl chloride. Staples based its safer plastic materials selection on a Plastics Scorecard developed from alternatives assessment conducted by CPA, in conjunction with BizNGO. Staples is transitioning to safer alternatives including, high- and low-density polyethylene, polypropylene, and bio-based plastics in addition to non-plastic alternatives such as recycled paperboard.

### **Transition to Safer Alternatives When Staples Does Not Own Design or Formulation**

Many products in Staples' supply chain are provided by product makers and suppliers that own the formulation and design. In order to meet the growing market demand for products that are safer and more sustainable, Staples also needed a strategy to transition to safer alternatives in products where Staples does not own full formulation or control product design. In October 2010, Staples publicly announced its "Race to the Top" sustainability strategy, which included a list of restricted substances that Staples identified on a "Bad Actors" list. The strategy focuses on key supplier collaboration by asking suppliers to compete not only in terms of product quality and cost but also by finding innovative solutions for product manufacturing, packaging, and distribution that reduce impacts on the planet. One of the primary benefits of Staples' "Race to the Top" strategy is to build sustainability into products throughout the Staples' supply chain. Suppliers were asked to review the Staples "Bad Actors" chemical list, disclose to Staples if any of their products contains a chemical from the list, and offer safer alternatives. If the supplier has an effective and cost-neutral safer alternative, then the product is preferred. However, if a supplier does not currently offer a functional equivalent that is cost-neutral, then the supplier is asked to disclose its plans and timeline, if any, for transitioning to a safer alternative.

Suppliers are encouraged to validate their claims using analytic test methods where possible and to use a credible, independent third-party or other reliable way to verify the claims. The supplier is invited to offer an explanation of why the unwanted chemical or ingredient is intentionally added or known to be present in the product.

Staples' strategic objective is to collaborate with suppliers and ask them to provide and/or conduct a Green Screen alternatives assessment to identify and compare potential chemical and non-chemical alternatives. Staples is developing a sustainability scorecard with suppliers. The scorecard will capture chemical information, track actions taken, and identify timelines to transition to safer alternatives.

There is not always a readily available safer alternative for identified "Bad Actor" chemicals. For example, Staples attempted to identify a safer alternative for bisphenol A (BPA) in thermal paper. After discovering that there currently were no clear safer alternatives for BPA in thermal paper, Staples encouraged EPA DfE to begin a BPA Alternatives in Thermal Paper Partnership. The EPA DfE brought together a broad set of stakeholders to identify and assess safer alternatives for BPA in thermal paper. The EPA DfE project has revealed a number of potential safer alternative candidates. A Green Screen is being conducted to identify the best candidates, which will then undergo a more comprehensive alternatives assessment. Some are concerned that there currently may not be a viable safer alternative for BPA in thermal paper. If this were to be confirmed, then Staples would argue that this is an excellent business opportunity for product makers to apply green chemistry principles and design a safer alternative to meet the emerging market demand.

## **BARRIERS TO A TRANSITION TO SAFER ALTERNATIVES**

The transition to safer alternatives is challenging. Obtaining hazard and exposure data on current chemicals and alternatives can be demanding.

### **Complex and Multi-Tier Supply Chain**

The supply chain and value chain can be fragmented and complex. For example, Staples may buy a product from a supplier, and that supplier in turn may have assembled or formulated its product by using chemicals and materials sourced from a number of other suppliers. Those suppliers are likely to get their chemicals and materials from other suppliers, and so on. Retailers often refer to these levels of suppliers as tiers. Tier 1 is the direct supplier from which the retailer buys the product, Tier 2 is that supplier's supplier, and so forth.



When suppliers fail to or choose not to disclose chemical information in their materials or products to the next supplier (tier) in the supply chain, then that supplier will not know the chemical is present and cannot disclose it to the next supplier (tier) in the supply chain. This can create information and disclosure gaps and obscure transparency and /or accountability, making it unclear who owns the responsibility for sharing chemical information.

Disclosure of chemicals of concern throughout the entire supply and value chains from sourcing to disposal can help protect businesses against the unintended consequences of regrettable substitution and claims of “greenwashing.”

### **Cost of Managing Chemical Information**

Obtaining, managing, and validating chemical information can be time-consuming and costly to retailers and distributors. It is challenging for retailers to identify suppliers and/or chemicals in products beyond its Tier 1 or Tier 2 suppliers. Staples and other businesses are tackling this challenge by making disclosure a part of the compliance relationship with suppliers. This extended supplier responsibility for disclosing chemical information down the supply chain is being embraced by many businesses as a more economically efficient and effective way to collect and manage chemical information from tier to tier.

### **Data Gaps**

The primary source used by businesses to communicate chemical information and assess risk and the safety of a product or chemical throughout the supply chain is the material safety data sheet (MSDS). Yet businesses have reported that many MSDSs are unreliable. For chemical mixtures, materials, and products, MSDSs rarely contain a complete list of chemical ingredients. In addition, the Occupational Safety and Health Administration (OSHA) sets the minimum reportable level at 10,000 ppm for hazardous chemicals and 1,000 ppm for carcinogens, thus exempting from disclosure chemicals of concern that are present in products below these *de minimis* levels. This can create an enormous burden for retailers and distributors when their business customers require full disclosure of ingredients. Some businesses also rely on information gathered from public product databases. Regrettably, many of these databases gather their information exclusively from material safety data sheets, making the information in the database only as reliable as the original MSDS source document.

Retailers face an additional challenge when products like toys for kids, jewelry, water bottles, and thermal paper receipts reportedly contain undesirable chemicals, yet there is no national regulatory requirement for the makers of these products to disclose the presence of chemicals of concern. These types of products are typically not regulated by OSHA and therefore do not require an

MSDS. And even if companies voluntarily offer an MSDS for these types of products, the information and ingredient disclosure requirements are nominal.

### **Confidential Business Information (CBI) Declaration**

There are legitimate reasons for businesses to seek confidential business information (CBI) protection. However, invoking CBI privilege may protect one business's intellectual property while at the same time increasing the risk of unknown, unwanted, and unintended exposure to a downstream user or business. Invoking proprietary and trade secret protection for ingredients or substances which are chemicals of high concern and thereby not disclosing their presence in a product can increase the risk to downstream users, consumers, and communities. Staples respects a supplier's desire to protect CBI that is legitimate. However, when chemicals of high concern are part of the CBI claim, Staples asks the supplier to at least disclose the chemical of concern.

### **OVERCOMING OBSTACLES WITH COLLABORATION AND CERTIFICATION**

Suppliers were initially skeptical and reluctant to share chemical ingredient information because they viewed it as proprietary. Eventually, suppliers offered chemical ingredient disclosure, but there were significant data gaps for environmental fate, human toxicity, hazard, and exposure data on the chemical ingredients. Staples' goal is to understand how best to determine and validate what chemicals are safer and thus prevent regrettable substitutions. To do this, Staples needed a reliable and credible way of comparing and assessing safer alternatives against ingredients listed as chemicals of concern.

The EPA's DfE Safer Product Labeling Program and CPA's Green Screen were selected by Staples to help identify safer alternatives. These two programs helped Staples to evaluate ingredients and select safer alternatives for its products by establishing hazard criteria and processes for comparative hazard evaluation [15–16]. The EPA DfE program collaborated with environmental advocacy groups, NGOs, GreenBlue Institute, International Sanitary Supply Association (ISSA), cleaning products formulators, and manufacturers of cleaning ingredients to develop the CleanGredients database, a program of the GreenBlue Institute. This database identifies safer ingredient alternatives that have potential human health and safety benefits when compared to existing chemical ingredients [17]. Staples also uses independent, third-party reviewers and certification organizations, including Green Seal, to certify compliance with appropriate Green Seal product certification standards [18].

Leading businesses are overcoming these obstacles by collaborating with colleagues in the Green Chemistry and Commerce Council (GC3) and BizNGO

to identify ways to more effectively gather chemical data from their supply chains. Specifically, Staples and other GC3 and BizNGO member companies are working together to develop tools and provide a forum for leading businesses all along the supply chain to discuss and share chemical data needs, challenges, strategies, and approaches [19].

Beyond cleaning products, Staples collaborates with other businesses, academic institutions, and NGOs to find new green chemistry solutions to shared problems. Through the GC3, Staples and other participating companies have begun a new partnership project with the Lowell Center for Sustainable Production and the University of Massachusetts Lowell to evaluate plasticizers used in polyvinyl chloride (PVC) and non-PVC applications for wire and cable products. Ultimately, this business and academic partnership model may serve as an example for approaching other problems shared by businesses in the future [19].

## CONCLUSION

International and domestic regulatory policy responses and consumer demand for safer alternatives are compelling businesses up and down the supply chain to ask their suppliers to go above and beyond regulatory compliance and voluntarily disclose chemicals in products.

As a result, American businesses have the opportunity to establish and maintain a leadership position which sends a positive message to consumers. A safer alternatives approach built on transparency, disclosure, and collaboration is good for business. An effective and modernized safer chemicals program would allow American business to do what it does best—innovate, grow, and create the best products. Staples “Race to the Top” sustainability and chemicals management strategy creates a credible and collaborative framework to innovate, collaborate with suppliers, create sustainable solutions, identify safer alternatives, and advance green chemistry [20].

American businesses will improve their chance of prospering in this ultra-competitive global market by designing and offering safer alternatives. Pollution prevention, green chemistry, and in turn, safer chemicals and products, are a part of the suite of benefits and shared values that we can create for our businesses, our customers, and our communities. As Dr. Philip Kotler of Northwestern University’s Kellogg School of Management noted, “Today, most companies are guilty of strategy convergence—namely undifferentiated strategies. To win, companies must pursue meaningful and relevant positioning and differentiation” [21]. Ultimately, competitive marketplace innovation is what will improve our products, with green chemistry and safer alternatives policies guiding product design.

Enhanced standards for safer alternatives will clearly contribute to improved worker health, enhanced user safety, and higher levels of environmental

stewardship. But in this era that Dr. Kotler describes as one of increasing “strategy convergence,” where one company looks pretty much like its competitor(s), a reputation for leadership in safer alternatives may provide what Kotler describes as “meaningful and relevant positioning and differentiation” upon which enduring brands are built, and what Dr. Michael E. Porter defines as a “sustainable competitive advantage” that carries directly to a firm’s bottom line [22].

Safer products mean reduced risk, global compliance, and meeting or adapting to the trends, needs and demands of downstream users. Everybody wins with safer products: the worker who makes them, the retailer who sells them, the consumer who uses them, and the environment that inherits them.

### ACKNOWLEDGMENTS

This article is provided for informational purposes only. The views and opinions expressed in this article are those of the author, and do not necessarily represent the opinions of Staples, Inc., or its affiliates.

The author thanks Jessica Schifano (*New Solutions* Guest Editor), Dr. Joel Tickner and Dr. Ken Geiser (Lowell Center for Sustainable Production), Dr. Mark Rossi and Dr. Lauren Heine (Clean Production Action), Dr. W. Grant Watkinson, Dr. John Martilla, and Jim Evans (Coastwide Laboratories), Dr. Richard Liroff (Investor Environmental Health Network), Bill Balek (International Sanitary Supply Association), Clive Davies and David Difiore (EPA Design for the Environment), Scott Case (UL Environmental), Mark Petruzzi (Green Seal), Stephen Ashkin (Ashkin Group), and Mark Buckley (Staples, Inc.) for their leadership, dedication, contribution, and commitment to promoting safer alternatives and sustainable production.

### NOTES

1. U.S. National Cancer Institute, *President’s Cancer Panel Annual Report 2008-2009, Reducing Environmental Cancer Risk: What We Can Do Now*, April 2010, [http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP\\_Reort\\_08-09\\_508.pdf](http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Reort_08-09_508.pdf) (accessed February 15, 2011).
2. U.S. Centers for Disease Control and Prevention, *Fourth National Study on Human Exposure to Environmental Chemicals*, December 2009, <http://www.cdc.gov/exposurereport/pdf/FourthReport.pdf> (accessed February 15, 2011).
3. Environmental Working Group, *Body Burden: The Pollution in People*, January 2003, [http://www.ewg.org/sites/bodyburden1/pdf/BBreport\\_final.pdf](http://www.ewg.org/sites/bodyburden1/pdf/BBreport_final.pdf) (accessed February 15, 2011).
4. ABC News, “Lead Found in Women’s Handbags,” January 22, 2010, <http://abcnews.go.com/WN/lead-found-womens-handbags/story?id=9638944> (accessed February 6, 2011).

5. National Public Radio, "Lead-Tainted Toys Linger on Shelves Despite Law," September 5, 2009, <http://www.npr.org/templates/story/story.php?storyId=112558103> (accessed February 11, 2011).
6. *Insurance Journal*, "Toy Makers Settle Lead-Contaminated Toy Lawsuit," December 5, 2008, <http://www.insurancejournal.com/news/west/2008/12/05/96065.htm> (accessed February 7, 2011).
7. MSNBC, "Mattel Settles With 39 States Over Tainted Toys," December 12, 2008, [http://www.msnbc.msn.com/id/28241169/ns/business-consumer\\_news/](http://www.msnbc.msn.com/id/28241169/ns/business-consumer_news/) (accessed February 8, 2011).
8. Safer Chemicals, Healthy Families Coalition, *The Health Case for Reforming the Toxic Substances Control Act*, January 2010, <http://healthreport.saferchemicals.org/> (accessed June 18, 2011).
9. Business-NGO Working Group, *The Business Case for Comprehensive TSCA Reform*, June 2, 2010, [http://www.bizngo.org/pdf/Biz\\_Case\\_for\\_TSCA\\_Factsheet\\_FINAL\\_Feb2010.pdf](http://www.bizngo.org/pdf/Biz_Case_for_TSCA_Factsheet_FINAL_Feb2010.pdf) (accessed February 15, 2011).
10. Peter Muennig and Pichchenda Bao, *The Social Costs of Childhood Lead Exposure in New Jersey*, December 2009, [http://www.state.nj.us/publicadvocate/public/pdf/NJ\\_Lead\\_Report\\_Final-5.pdf](http://www.state.nj.us/publicadvocate/public/pdf/NJ_Lead_Report_Final-5.pdf) (accessed February 3, 2011).
11. Richard Liroff, "Triclosan's Dirty Secrets Can Land Your Products in 'Toxic Lockout,'" December 20, 2010, <http://www.greenbiz.com/blog/2010/12/20/triclosan-dirty-secrets-can-land-your-products-toxic-lockout> (accessed June 5, 2011).
12. Staples, Inc. "Staples Soul / Environment," <http://www.staples.eu/soul/environment/> (accessed May 24, 2011).
13. Business-NGO Working Group, "Guiding Principles for Chemicals Policy," <http://www.bizngo.org/guidingPrinciples.php> (accessed February 15, 2011).
14. Anastas, P. T. and J. C. Warner, *Green Chemistry: Theory and Practice* (Oxford: Oxford University Press, 1998).
15. U.S. Environmental Protection Agency, "Design for the Environment/Standard and Criteria for Safer Chemical Ingredients," <http://www.epa.gov/dfe/pubs/projects/gfcp/index.htm> (accessed February 15, 2011).
16. Clean Production Action, "The Green Screen for Safer Chemicals," <http://www.cleanproduction.org/library/greenScreenBrochure.pdf> (accessed February 15, 2011).
17. CleanGredients, "CleanGredients Home," <http://www.cleangredients.org/home> (accessed February 16, 2011).
18. Green Seal, "Find Green Products and Services," <http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&cid=16> (accessed February 16, 2011).
19. Green Chemistry and Commerce Council, "Projects," [http://www.greenchemistryandcommerce.org/downloads/GC3\\_guidance\\_final\\_031011.pdf](http://www.greenchemistryandcommerce.org/downloads/GC3_guidance_final_031011.pdf) (accessed February 15, 2011).
20. 2Sustain, "Staples Introduces Supplier Scorecards Focused on Sustainability," <http://2sustain.com/2010/10/staples-introduces-supplier-scorecards-focused-on-sustainability.html> (accessed June 5, 2011).
21. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 13th ed. (Upper Saddle River: Pearson Prentice Hall, 2009).

22. Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: Free Press, 1998).

Direct reprint requests to:

Roger McFadden  
10000 SW Commerce Circle  
Wilsonville, OR 97070  
e-mail: [roger.mcfadden@staples.com](mailto:roger.mcfadden@staples.com)