

# JOINT STATEMENT ON USING GREEN CHEMISTRY AND SAFER ALTERNATIVES TO ADVANCE SUSTAINABLE PRODUCTS

Retailers are on the front lines of consumer concerns about the health and environmental impacts of chemicals in products. In response, retailers want to leverage their ability to help catalyze innovation and new solutions. Since spring 2014, thought leaders from seven major retailers<sup>1,2</sup> and five major chemical manufacturers<sup>3</sup> have been in dialogue about improving product sustainability and finding ways to accelerate the development and scale up of green chemistry solutions as well as increase transparency in the value chain. Green chemistry, focused on the design and application of safer chemical products and processes, is a core element

of many firm's sustainability and/or sustainable chemistry programs. Retailers have shared feedback from their customers, their concerns about hazardous chemicals in products, and their priorities for safer products. Chemical manufacturers have shared publicly available information on their research, development, and commercialization processes, their processes for evaluating product safety and sustainability, the types of information they need to make the business case for pursuing green chemistry solutions, and their challenges in bringing these alternatives to market.



Developed by the Green Chemistry & Commerce Council (GC3) with participation from the following companies:



The companies involved in this dialogue support the overarching goal of exploring and, whenever possible, accelerating the development and use of more sustainable products through innovation in and sourcing of green chemistry solutions. Each of the companies involved is on its own journey and at different stages in its product sustainability program. All share a commitment to having an open dialogue around five key areas to promote green chemistry research, development, and adoption:

## **1** GOAL SETTING AND CONTINUOUS IMPROVEMENT

### **Setting company-specific goals and monitoring progress accordingly**

Chemical manufacturers practice green chemistry through research, development, and commercialization of safer alternatives. Retailers practice and/or advance green chemistry by engaging in one or more of the following practices: helping to inform and educate consumers, enhancing marketing efforts, developing strategies that support its adoption in the marketplace, and implementing green chemistry solutions in their own brands. All companies are encouraged to set goals and monitor their progress towards achieving those goals of incorporating green and sustainable chemistry in their operations and supply chains by utilizing their own in-house programs or using tools such as the Green Chemistry Checklist.<sup>4</sup> Each company will set its own goals and objectives. Companies are encouraged to share their goals publicly. Chemical manufacturers should work with others in their supply chains to make health, safety and environmental protection an integral part of the life cycle of chemicals. This includes taking steps to: identify and evaluate potential hazards and risks associated with their products, processes, distribution and other operations; establish goals and objectives to address any significant hazards and risks; implement programs to meet goals; check progress and take action where improvement is needed.<sup>5</sup>

## **2** COMMUNICATION

### **Communicating with stakeholders along the value chain about the demand for green chemistry solutions and the availability of new alternatives.**

It is critical that chemical manufacturers have information on the demand for green chemistry approaches and that chemical manufacturers communicate about the chemical alternatives that are or could reasonably become commercially available. It is understood that confidential business information must be protected. Retailers and chemical manufacturers also acknowledge the need to improve communication among all participants in the value chain, whenever possible, to promote the development and adoption of green chemistry solutions.

## **3** TRANSPARENCY

### **Sharing information on chemical hazards and risks to human health and the environment, while protecting confidential business information.**

For supply chain participants and customers to make informed decisions when deciding on the use of a chemical, material, or product, they must have information on chemical ingredients, chemical hazards, and risks to human health and the environment. Chemical manufacturers are encouraged to share this information with their direct customers and in turn encourage them to share this information with retailers and others in the value chain. Retailers are encouraged to make this information available to consumers as requested. It is understood that confidential business information must be protected and should be clearly identified by its owners. The Strategic Approach to International Chemicals Management (SAICM) notes that “information on chemicals relating to the health and safety of humans and the environment should not be regarded as confidential.”<sup>6</sup>

## 4 INFORMATION ON NEW CHEMICALS AND SAFER ALTERNATIVES

**Providing clear and accessible information across the value chain and to consumers to enable informed decision making.**

Information on new chemicals and safer alternatives that are commercially available should be easily accessible to product manufacturers and retailers upon request. Chemical manufacturers are encouraged to provide clear summaries of complex technical information to value chain stakeholders and help these stakeholders provide information that is accessible and easily understood to consumers. Chemical manufacturers are encouraged to use publicly available and credible databases to share this information, wherever practicable.<sup>7</sup> Retailers are encouraged to improve their private label products through using approaches such as credible third party labels or standards.<sup>8</sup>

## 5 SUPPORT FOR GREEN CHEMISTRY EDUCATION

**Supporting the need for enhanced education in green chemistry.**

Understanding the need for enhanced education and training in green chemistry chemical manufacturers are encouraged to support the development of green chemistry skills in the workplace. Retailers are encouraged to have a dialogue with their internal stakeholders and supply chains about the value of green chemistry approaches for designing and developing products that are more sustainable. Companies are encouraged to participate in initiatives such as the Green Chemistry Commitment<sup>9</sup> and the GC3 Policy Statement on Green Chemistry in Higher Education<sup>10</sup> as well as other programs that promote the understanding and use of the principles of green chemistry.

### NOTES

- 1 The GC3 Retailer Leadership Council (RLC) includes representatives from Best Buy, CVS Health, Home Depot, Lowe's, Staples, Target, and Walmart. The mission of the RLC is to promote safer chemicals, materials and products across retail supply chains.
- 2 Lowe's Companies, Inc. joined the RLC in October 2015.
- 3 AkzoNobel, BASF, Chemours, Dow, and Eastman.
- 4 <https://migreenchemistry.org/wp-content/uploads/2013/11/GC-Checklist-Final.pdf>
- 5 The American Chemistry Council's Responsible Care management systems (RCMS® and RC14001®), Responsible Product Safety Code and Process Safety Code, and the International Council of Chemical Associations Product Stewardship Guidelines are among the ways manufacturers can accomplish these objectives: <https://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements>.
- 6 [https://sustainabledevelopment.un.org/content/documents/SAICM\\_publication\\_ENG.pdf](https://sustainabledevelopment.un.org/content/documents/SAICM_publication_ENG.pdf) Overarching Policy Strategy paragraph 15(c).
- 7 For example, CleanGredients <http://www.cleangredients.org/home> and the US EPA Safer Chemicals Ingredient List <http://www.epa.gov/saferchoice/safer-ingredients>
- 8 For example, US EPA's Safer Choice program. <http://www2.epa.gov/saferchoice>
- 9 <http://www.greenchemistrycommitment.org>
- 10 <http://greenchemistryandcommerce.org/assets/media/images/Projects/GC3%20HigherEdPolicy.pdf>
- 11 Anastas, P. T. and Warner, J. C. Green Chemistry: Theory and Practice. Oxford University Press: New York, 1998.
- 12 <http://www.oecd.org/env/ehs/risk-management/29361016.pdf>
- 13 From Tickner, J. and Eliason, P. Alternatives Assessment for Chemicals: From Problem-Evaluation to Solutions-Assessment and Implementation: A background paper for use in the March 31-April 1, 2011 Interagency Discussion on Alternatives Assessment, EPA Potomac Yards Conference Facility, Crystal City, VA. March 24, 2011.

### DEFINITIONS

The Green Chemistry and Commerce Council recognizes that there are nuances to the definitions below and that the organizations engaged in this dialogue may define these terms differently or may use different terms. For the purposes of this dialogue, we are using the following definitions:

#### GREEN CHEMISTRY

Green chemistry is the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances.<sup>11</sup> Green chemistry applies across the life cycle of a chemical product, including its design, manufacture and use and is inspired by 12 fundamental principles, which are used in its implementation. Green chemistry is a critical element of sustainable chemistry.

#### SUSTAINABLE CHEMISTRY

Sustainable chemistry is the design, manufacture and use of efficient, effective, safe and more environmentally benign chemical products and processes. Within the broad framework of sustainable development, government, academia and industry should strive to maximise resource efficiency through activities such as energy and non-renewable resource conservation, risk minimisation, pollution prevention, minimisation of waste at all stages of a product life-cycle, and the development of products that are durable and can be reused and recycled.<sup>12</sup>

#### SAFER ALTERNATIVE

A safer alternative is a chemical that due to its inherent chemical and physical properties, exhibits a lower propensity to persist in the environment, accumulate in organisms and induce adverse effects in humans or animals, and delivers the functional performance required. A safer alternative can also include eliminating the need for the chemical through material change, product re-design, or product replacement; or by altering the functional demands for the product through changes in consumer demand, workplace organization, or product use.<sup>13</sup>

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The Green Chemistry & Commerce Council (GC3) is a cross sectoral, business-to business network of companies and other organizations working collaboratively to advance green chemistry across sectors and supply chains.

The GC3 is a project of the Lowell Center for Sustainable Production at the University of Massachusetts Lowell. For more information contact: [The Green Chemistry & Commerce Council](#).

This document is available at:  
<http://greenchemistryandcommerce.org/documents/RLC-JointStatement.pdf>

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