

The GC3: stakeholder collaboration on safer products

Responding to concern in the US about the impacts of REACH on supply chain availability of chemicals information, and challenges in advancing safer chemistry, a group of companies, plus other government and non-profit stakeholders, worked with the Lowell Center for Sustainable Production (LCSP) at the University of Massachusetts Lowell to create the Green Chemistry and Commerce Council (GC3). Associate Professor Joel Tickner explains its work.

The GC3's membership includes more than 50 firms and business-oriented NGOs sharing a common mission: to implement green chemistry throughout supply chains, share strategies to overcome barriers and reduce environmental footprints, promote education and information on safer chemicals and products, and to identify existing and needed information on toxics hazards, risks, exposures and safer alternatives. The organisation has talked to more than 100 businesses, government agencies and non-profits about these challenges.

The GC3 has a series of working groups focused on delivering practical reports and projects that advance collaboration on safer chemistry. One of these is an academic/industry research initiative assessing plasticisers used in wire and cable applications to support safer electronic products using a comparative screening tool known as the Green Screen ([🔗 *CW Briefing, October 2010*](#)) developed by the non-profit Clean Production Action. A series of phthalate and non-phthalate plasticisers will be reviewed for their environmental health and safety profiles before being compared across 16 human and environmental endpoints to diethylhexyl phthalate (DEHP), the plasticiser traditionally used in PVC wire and cables. This will provide a model for pre-competitive research that helps overcome challenges to green chemistry.

Responding to challenges that manufacturers across sectors face in obtaining chemical toxicity and formulation data, a second working group recently published a report entitled "Meeting customers' needs for chemical data: a guidance document for suppliers" ([🔗 *Green guidance*](#)). The report

was written collaboratively by more than a dozen companies, NGOs and the US Environmental Protection Agency. It provides tools and examples in support of improved supply chain communication between suppliers and their customers, and in the development of more sustainable products. The report was driven by many of the efforts already underway within supply chains to actively share relevant chemical information between fabricators, formulators, and their suppliers. It provides clear signals to suppliers on the needs that fabricators and formulators have for chemical data and the consequences of not providing such data.

Retailers are increasingly the target of media and consumer campaigns on chemicals of concern in products. They are powerful actors in stimulating market transitions away from chemicals of concern. However, they often do not have the understanding or resources to understand product chemistry or alternatives. A third working group is developing a web resource for the retail industry that identifies tools and systems to manage the chemical ingredients of the products they are selling. Building on the group's report: "Best practices in product chemicals management in the retail industry" ([🔗 *Best practices*](#)), this web resource is being developed to assist retailers in developing chemicals management systems by providing detailed information on tools and systems currently available and in use. The group's goal in educating retailers about these tools and systems is that they establish a baseline of product ingredient information, track the chemical ingredients of the products they are selling, identify chemicals of concern in products, transition to safer alternatives, and green their supply chain.

The work of the GC3 and its working groups is primarily powered by the Council's annual multi-day Innovators Roundtable conference. The sixth, Advancing green chemistry practices in business ([🔗 *Green practices in business*](#)) will take place on 4-5 May in Cupertino, California, and will be hosted by electronics leader HP. The conferences provide an opportunity for companies to share experience, network, and build new collaborations. Those interested in advancing green chemistry within their own companies are welcome to attend. Discussion

topics this year will include advancing green chemistry education, driving innovation through transparent chemical data and analysis, green chemistry and safer materials in the electronics sector, and new collaborations to advance safer materials.

Companies that can show the business case for green chemistry adoption and that distinguish themselves in the marketplace will be in a good position to gain competitive advantage from increasing consumer preference for safer products. But despite these trends, there are still significant barriers to the efforts of leading edge companies attempting to implement safer products. Informational, technical and policy barriers often present insurmountable challenges, particularly for small firms. As such, organisations like the GC3 can help firms identify examples and models for overcoming barriers, and promote policies and market changes that encourage adoption of safer products.

The GC3 experience has demonstrated the power of cross-sectoral and supply chain collaboration in overcoming common scientific, design, application, and incentives challenges. While a big vision is a prerequisite for advancing innovation in safer products, a pragmatic approach that recognises the challenge of actual, on the ground implementation of green chemistry modifications to production systems and products is also necessary. There is a need for new research collaborations, new tools to assess chemicals and their alternatives, and new policies that incentivise innovation and partnerships to advance safer products. Focusing on designing and applying safer chemicals along supply chains is an increasingly important imperative. This will require a new generation of scientists, engineers, and business leaders who understand the connection between environment, health and product design.

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