Green Chemistry and Commerce Council
Year in Review
May 7, 2013
GC3 2012 Accomplishments

- Webinars
- Significant advancement in project groups
- Second National Summit for retailers
- Publications and media attention
- Increase in members and funding
How collaboration can lead to better decisions on safer chemical alternatives

By Monica Becker
Published October 26, 2012
Tags: Chemicals, Green Chemistry & Toxics, More...

The pressure is mounting on brands to eliminate known chemicals of concern from their products. The European Union’s REACH regulations, Washington State’s Children’s Safe Products Act, and California’s Green Chemistry Initiative, with new regulations due out imminently, are but a few examples of the many laws driving companies to identify and eliminate chemicals of concern. Add to this list growing interest and pressure from individual consumers, NGOs and retailers for greater safety and transparency.

The path to elimination can be riddled with
How retailers can collaborate on safer chemicals

By Sally Edwards
Published March 13, 2013
Tags: Business Operations, Chemicals, More

Retailers are often caught by surprise when a new chemical of concern hits the news. Headlines such as “Dangerous Toys Lurk on Store Shelves” or “Plastics in Baby Bottles May Pose Health Risks” can send retailers scrambling to remove products from shelves, often in response to public concerns that precede regulations.

While reacting quickly to such news is often an appropriate response, such hurried action can be very costly and can impact customer loyalty and brand integrity. And although it may get some products of concern out of the marketplace, it does not provide a long-term solution to the problem of harmful chemicals in consumer products. Such a reactive approach can also lead to regrettable substitutions, where a chemical or product of concern is replaced with one that is equally or more dangerous.

As this story plays out over and over with chemicals such as lead, BPA, phthalates and other toxicants, many retailers are recognizing that it makes much more strategic sense to be proactive rather than reactive. Retailers understand that these events are often a signal that new regulations are imminent.

For example, after 17 million toys were recalled in 2007 for violation of the lead...
Projects Overview

Research and outreach activities and deliverables that advance the GC3 mission are carried out through a series of smaller project groups. The projects for each year are decided at the Annual GC3 Roundtable based on suggestions by participants and members, and consultation with the GC3 Advisory Committee. The scope of the projects, timeline, and specific deliverables are developed by members of each project group. All GC3 members are encouraged to participate and take leadership in project groups.

Project groups for 2012-2013 are as follows:

**Advancing Green Chemistry Education**
This project group is exploring ways to embed green chemistry in university and professional education as well as in research, education, and development funding programs.

**Business and Academic Partnerships for Safer Chemicals**
In an effort to develop model business partnerships with academic institutions to find green chemistry solutions, this working group is conducting a pilot project on alternatives to phthalates in wire and cable coatings.

**Engaging Retailers in the Adoption of Safer Products**
This project group is engaging proactive retailers and other stakeholders in dialog about the challenges and solutions to managing chemical ingredients in the products sold in the retail industry.

**Facilitating Chemical Data Flow Along Supply Chains**
This working group aims to facilitate the efforts of product formulators and fabricators to obtain chemical data from their supply chains for regulatory compliance, green product design, certification and disclosure through a standardized data format.
GC3 Advisory Committee

Mary Grim, Timerland
Cora Leibig, Segetis
John Frazier, Nike
Barbara Hanley, Hewlett Packard
Bob Israel, Valspar
Al Iannuzzi, Johnson & Johnson
Rich Liroff, Investor Environmental Heath Network
Roger McFadden, Staples
Ken Zarker, Washington State Department of Ecology
GC3 advisory committee strategic planning process

• Take stock of accomplishments and directions
• Review mission and accomplishments of the GC3 over 7 years
• Understand changing landscape for promoting green chemistry/sustainable products
• Agree on 5 year vision for GC3 as organization and for work to be accomplished
• Identify key indicators of success – for organization and content work
• Identify who needs to be “at the table” to ensure success
Draft revision to GC3 mission

Mission

• To protect public health and the environment by:
  – harnessing the power of innovation for promoting research and the practical application of green chemistry, green engineering, and design for environment, and;
  – making their use standard practice in product design, manufacturing, and procurement.
GC3 Approach

• Increase demand for and supply of chemicals that are designed and manufactured based on the principles of green chemistry, green engineering, and design for environment.

• Develop and promote practical approaches, tools, initiatives, policies and collaborations that advance safer chemicals and products throughout supply chains.

• Foster collaboration and learning among business, government, nongovernmental organizations, and academic researchers that are working on green chemistry solutions.
GC3 Summary of Accomplishments

Education and research
• Publication of reports, case studies and a guidance document on best practices, challenges and opportunities for green chemistry in industry.
• Engaging industry and universities in research and application of alternatives to materials of concern.
• Hosting of regular webinars on cutting-edge green chemistry and design for environment topics.
• Development of a quarterly newsletter outlining GC3 accomplishments, new policy developments, educational opportunities, and relevant news.

Networking and dialogue
• Hosting an annual Innovators Roundtable, now with more than 100 business and other stakeholders, to share challenges and best practices.
• Convening project groups dedicated to conducting collaborative projects aimed at advancing the state of the art of green chemistry in business.
GC3 Summary of Accomplishments (cont.)

Policy

• Development of a policy report for advancing green chemistry and design for environment with the National Pollution Prevention Roundtable.
• Development of model green chemistry research and development policy language and direct advocacy for federal GC R&D Act and passage of America COMPETES Act.
• Support for green chemistry and design for environment research, development, and education funding and programs in government and universities.

Outreach

• Regular presentations to business, government and other stakeholder audiences on the GC3 and its activities.
• Publication of articles designed to promote green chemistry in industry and academia.
• GC3 website including Retailer Portal, list of chemicals of concern, reports, conference presentations, etc.
• Media outreach on major GC3 projects and reports.
GC3 Signature Projects

**Topic: Retail**

Retailer Portal: Tools to Evaluate Chemical Ingredients in Products

**Topic: Policy**

Growing the Green Economy: A State's Guide to Creating Opportunities for Green Chemistry and Design for Environment

**Topic: Chemical data**

Meeting Customers’ Needs for Chemical Data: A guidance document for suppliers

**Topic: Chemical data**

Case studies of Nike, SC Johnson & HP
GC3 Signature Events

2010 GC3 Retailer Summit

2013 GC3 Retailer Summit

GC3 Webinars

November 8, 2012
Green Chemistry Innovation in the Chemical Industry: Venturing and Start-Ups

Cors Leibig, VP of R&D, Segrelos
Erik Ritten, Senior Investment Manager, DSM Venturing

• Education
• Research
• Policy
• Collaboration
• Networking
How has the landscape changed since the GC3 started?

- More scientific information available on chemicals of concern and possible alternatives
- Increased public and advocacy attention and concern
- Increased policy and regulation
- Increased demands for safer chemicals in supply chain (not just the “green” companies)
- Chemical industry is changing
- New sector-focused collaborations
- New tools for assessing chemicals and products
Recurring themes

• Transparency
• Collaboration and partnership (supply chain/sectoral)
• Power of purchasing
• Making the business case
• Metrics and tools
• Education
WHO
The Health Product Declaration Collaborative is a customer-led organization for companies and individuals committed to the continuous improvement of the building industry’s environmental and health performance, through transparency and innovation in the building product supply chain.

WHAT
The Health Product Declaration Open Standard is a standard format that systematizes reporting language to enable transparent disclosure of information regarding building product content and associated health information, by defining the critical information that is needed by building designers, specifiers, owners and users.

HOW
It is an open standard, freely available to all.
The reports are based on the data provided to the agency. The presence of a chemical in a children's product does not necessarily mean that the product is harmful to human health or that there is any violation of existing safety standards or laws. The reporting triggers are not health-based values.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Component</th>
<th>Concentration</th>
<th>Chemical Function</th>
<th>Product Description</th>
<th>Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexyl-4-methoxycinnamate</td>
<td>Homogenous Mixtures (gels, creams, powders, liquids, adhesives, synthetic)</td>
<td>Equal to or greater than 10,000 ppm</td>
<td>UV stabilizer/absorber</td>
<td>Lip Balms</td>
<td>10005727</td>
</tr>
</tbody>
</table>
Collaborative Model - Joint Roadmap: Toward Zero Discharge of Hazardous Chemicals
Events Calendar

Tell a Friend

BIFMA CHEMICALS OF CONCERN SUMMIT
4/29/2013 to 4/30/2013

When:    April 29 - April 30
          Monday 9:30 am - 5 pm; Tuesday 8 am - 3 pm

Where:   Sheraton Ann Arbor Hotel
          3200 Boardwalk
          Ann Arbor, Michigan  48108
          United States

Contact: Brad Miller (bmill@bifma.org)

Registration Information

Online registration is closed.

Details
OIA Chemical Management Framework

Diagram 1: THE CHEMICALS MANAGEMENT FRAMEWORK

Primary Objectives

- Regulatory Awareness & Compliance
- Process & Product Chemicals Knowledge
- Chemical Hazard Assessment (low, med, high)
- Safer Alternatives Assessment & Preferred Substances
- Restricted Substances/Substances of Concern

Outputs

- Chemical Safety & Risk Management
- Sustainable Chemistry Innovation & Continuous Improvement
- Substances of Concern List
- Preferred Substances List
- Restricted Substances List

know → assess → decide
Chemists are currently not trained in toxicology.
Together we can fill this knowledge gap.

January 2012 Green Chemistry Commitment Summit
Challenges

• Complex and global supply chains
• Challenging to change the supply chain if a company is not big
• Need for:
  – Transparency of ingredients
  – Better understanding of supply chain beyond tiers I and II
  – Traceability
  – Better regulation
• There are some barriers to business to business collaboration that stem from competition, limited resources, and barriers to information flow in supply chains
• There is limited funding/resources for green chemistry research and application in government and many firms. Suppliers, particularly in Asia, do not have resources to innovate given cost-margins
Global Chemicals Outlook
Towards Sound Management of Chemicals

Trends and changes
Economic implications
Health and environmental effects
Policy responses

Synthesis Report for Decision-Makers
What is the unique niche of the GC3?

• Business-to-business
• Members are from:
  o Many sectors
  o Multiple points in the value chain: chemical producers, brands, retailers
• Collaborative projects to advance green chemistry and design for environment in industry – solutions to pragmatic challenges
• Chemicals not broader sustainability focus
• Networking
• Education
• Based at a university research center – but could involve other academics, such as business schools
Next steps from strategic planning

• **Primary goal of the GC3:** To mainstream green chemistry.

• **Charge to the GC3:** Create a roadmap for how to achieve this goal. The roadmap will help the GC3 determine where to focus its efforts. It will bring recognition to what must be changed to mainstream green chemistry.

• **To achieve this, GC3 will need to:**
  – Develop a road map for industry.
  – Develop a road map for policy.

• GC3 projects and efforts would evolve from this roadmap.
Taking advantage of changes

• Change market demand
  – Address barriers to green chemistry in the marketplace
  – Help concentrate demand through linking those needing green chemistry solutions and those developing them

• Support innovation
  – University/business partnerships
  – Green chemistry challenges

• Support green chemistry policy
  – R&D and education policy

• Communications and branding
  – Case examples and best practices
  – Making business case
Ideas for Continuing the Work in 2013-2014

GC3 Needs Survey

• To evaluate education/training, research, networking and policy support needs of members
• 28 respondents
• Many noted the need to “sell” green chemistry and make the business case but want to know ways others may have been successful in this.
To what extent do the business units in your company have a need for training in green chemistry?

- Science/Engineering
- Design
- Compliance
- Senior Leadership/Internal Audit
- Supply Chain
- Merchandising
- Procurement
- Real Estate
- Facilities and Operations
- Business/Administration
- Marketing
- Risk Management

Legend:
- Orange: No Training Needed
- Blue: Some Training Needed
- Purple: Significant Training Needed
- Pink: In-Depth Training Needed
- Green: Don't Know/Does Not Apply
To advance green chemistry within your firm, what types of research and information would be helpful? (Please check all that apply.)

- Consolidated lists of greener and/or... (Most helpful)
- Research on alternatives to particular chemicals...
- Information on upcoming policies, activities,...
- Research on the economic/business case...
- Consolidated lists of chemicals of concern from...
- Reports on best practices for improved chemical...
- Case studies of successful implementation of green...
- Research on methods for evaluating alternative...
- Research on incentives to support green chemistry
- Reports on best practices for...
What types of networking and collaboration support would be most helpful for the GC3 to provide? (Please check all that apply.)

- Enhancing the GC3 website to include greater detail and information on...
- Creating GC3 subgroups for specific sectors or supply chains to partic...
- Creating GC3 subgroups for specific sectors or supply chains to engage...
- Connections to companies struggling with similar challenges in adoption...
- Enhancing the GC3 newsletter to provide more updates about member act...
- Creating an online community for GC3 members to share experiences and...
- Enhancing the project group efforts to include more in-person meetings...
- Other (please specify)
What types of policy research and support would enhance your firm’s green chemistry efforts?
(Please check all that apply)

- Evaluation of the implications of new state, federal, or international regulations.
- Support for policies that create green chemistry incentives.
- Support for initiatives to integrate green chemistry into academic programs.
- Evaluation of policy options to support green chemistry education, research, and development.

[Bar chart showing the relative importance of each type of research and support]
Ideas for Continuing the Work in 2013-2014

GC3 Needs Survey – Mainstreaming Green Chemistry

• Case examples that make the business case.
• Integrating into academic education
• Green chemistry evaluation tools
• Public policy changes that address chemicals of concern and provide incentives for safer alternatives
• Education at the senior management level
GC3 Needs Survey – What could the GC3 do to mainstream green chemistry

• Retailer engagement – particularly linking retailers and chemical/material manufacturers
• Convening/Networking people across sectors and levels of supply chains
• White papers addressing key challenges
• Case examples and best practices to build the business case
Long live the GC3!
Agenda and Logistics

• Staff
• Meals
• Receptions and Dinner
• Evaluations
GC3 Green Chemistry Champion for 2013
Barbara Hanley - HP
The GC3 would like to thank the following companies for their generous support in making this meeting possible:

Johnson & Johnson

Steelcase®

Nike

STAPLES

easy on the planet