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How big chains from Walmart to Whole Foods are cleaning up chemicals

[Source: GreenBiz.com, October 10, 2015](#)

[Author: Kenneth Geiser](#)

Every day thousands of people make decisions that affect the chemical market. Most decisions are about the costs, availability, and performance of products; few involve consideration of human health or the environment. If the consumer market offers an important opportunity for promoting safer chemical production and consumption systems, the amount of chemical information in the market must expand, and the number of products that take health and environment into account must increase. A chemical conversion strategy needs to address the chemical market.

A focus on commercial products provides important leverage in shifting to safer chemicals because products are so central to a consumer economy and so accessible to decision making by an informed public. Consumers, at the point of purchase, can select products with safer chemicals; retailers and institutional buyers, when negotiating supplier contracts, can specify products with safer chemicals; product manufacturers, when designing products, can specify safer chemical ingredients; and consumer advocacy campaigns, when targeting specific chemicals, can recommend products to buy or avoid.

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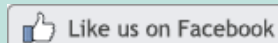
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Application of the Activity Framework for Assessing Aquatic Ecotoxicology Data for Organic Chemicals

[Source: *Environmental Science & Technology*, September 17, 2015](#)

Authors: Paul Thomas, James Dawick, Mark Lampi, Philippe Lemaire, Shaun Presow, Roger van Egmond, Jon A. Arnot, Donald Mackay, Philipp Mayer, and Malyka Galay Burgos

Toxicological research in the 1930s gave the first indications of the link between narcotic toxicity and the chemical activity of organic chemicals. More recently, chemical activity has been proposed as a novel exposure parameter that describes the fraction of saturation and that quantifies the potential for partitioning and diffusive uptake. In the present study, more than 2,000 acute and chronic algal, aquatic invertebrates and fish toxicity data, as well as water solubility and melting point values, were collected from a series of sources. The data were critically reviewed and grouped by mode of action (MoA). We considered 660 toxicity data to be of acceptable quality. The 328 data which applied to the 72 substances identified as MoA 1 were then evaluated within the activity-toxicity framework: EC50 and LC50 values for all three taxa correlated generally well with (subcooled) liquid solubilities. Acute toxicity was typically exerted within the chemical activity range of 0.01-0.1, whereas chronic toxicity was exerted in the range of 0.001-0.01. These results confirm that chemical activity has the potential to contribute to the determination, interpretation and prediction of toxicity to aquatic organisms. It also has the potential to enhance regulation of organic chemicals by linking results from laboratory tests, monitoring and modeling programs. The framework can provide an additional line of evidence for assessing aquatic toxicity, for improving the design of toxicity tests, reducing animal usage and addressing chemical mixtures.

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Bio-Succinic Acid in Coatings and Resins

[Source: *Paint & Coatings Industry*, September 2015](#)

Author: Lawrence Theunissen

Modern coatings continue to meet the basic aesthetic requirements and increased resistance to external influences demanded by the customer. However, as reserves of fossil fuels decline, the coatings industry must look to the future -- despite today's competitive oil prices -- and aim to avoid raw material shortages.

The coatings industry as a whole has been through difficult economic times in recent years due to higher raw material prices, limited supplies and a decrease in consumer spending. To stay competitive, investments are being made in innovation and new technologies. Being responsive to increasing environmental pressures and regulation is also crucial.

Increasingly, government and industry regulations are driving the reduction of volatile organic compounds (VOCs) in resins. These same regulators are also calling for the creation of more sustainable resin products. The use of bio-succinic acid can increase the bio-based content of resins, such as polyester, alkyd and urethanes, while VOC levels can be further reduced by using solvents or coalescing agents based on bio-succinic acid.

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Brazil plans legislation on industrial chemicals

Source: [Chemical Watch, October 15, 2015](#)

Author: Leigh Stringer

Legislation setting out a Brazilian national policy on industrial chemicals should be issued by the end of year, the country's environment ministry (MMA) said last week.

Alberto Rocha, manager of the chemicals division at the ministry gave further details to a side event at the UN chemicals summit, ICCM4.

The proposed law, which will be presented to Brazil's National Congress... will list the obligations, mechanisms and institutional arrangements needed to meet the policy's goals. These will include:

- establishing a national chemicals inventory using information in official databases, such as those used in the EU and Canada;
- using the UN Globally Harmonized System (GHS) of classification and labelling for classifying chemicals in its inventory (GHS December 2014);
- creating a process which will allow industry to provide substance data to the government;
- focusing on substance prioritisation based on risk; and,
- developing risk management measures.

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Anti-Aging Secrets Exposed: Chemical Linked to Breast Cancer Found in Skin Care

Source: [Campaign for Safe Cosmetics, a project of the Breast Cancer Fund, October 2015](#)

Authors: Sharima Rasanayagam, Janet Nudelman, Rebecca Wolfson, and Connie Engel

Would you put Teflon on your face? Did you know some anti-aging creams and face powders use the same chemical that creates a nonstick surface on cookware to create a smooth finish to makeups and lotions?

That's a recipe for concern, because of a potential contaminant of PTFE called perfluorooctanoic acid (PFOA). PFOA is a toxic chemical linked to cancer, endocrine disruption and reproductive harm. PTFE is the same chemical known by the trade name Teflon.

The Campaign for Safe Cosmetics, a project of the Breast Cancer Fund, sent products created by the top multinational cosmetic companies to an independent laboratory and had them tested for toxic chemicals linked to breast cancer. The results were shocking: Three anti-aging creams from the beloved brands Garnier and CoverGirl contained PFOA. The very demographic most affected by breast cancer is the marketing target for anti-aging products that contain chemicals linked to the disease.

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Access the full report [here](#).

CPSC commissioner calls for national adoption of Calif. flammability standard

Source: Furniture Today, October 12, 2015

Author: Furniture Today Staff

HICKORY, N.C. -- Joseph Mohorovic, the newest commissioner on the Consumer Product Safety Commission, has called for the agency to end its 21-year stalemate over a federal upholstered furniture flammability standard.

Mohorovic's proposed solution is for the CPSC to adopt California's Technical Bulletin (TB) 117-2013 under a seldom-used section of the Consumer Product Safety Act. ...

Section 9 of the CPSA allows the commission to withdraw its rulemaking on an issue and formally rely on a voluntary safety standard. Although TB 117-2013 is mandatory in California, most manufacturers voluntarily comply with the standard, even for upholstered furniture shipped elsewhere in the country.

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Biomass to Furanics: Renewable Routes to Chemicals and Fuels

Source: ACS Sustainable Chemistry & Engineering, September 20, 2015

Authors: Benjamin R. Caes, Rodrigo E. Teixeira, Kurtis G. Knapp, and Ronald T. Raines

The quest to achieve a sustainable supply of both energy and chemicals is one of the great challenges of this century. 5-(Hydroxymethyl)furfural (HMF), the long-known dehydration product of hexose carbohydrates, has become an important nexus for access to both liquid fuels and chemicals. One such biofuel is 2,5-dimethylfuran (DMF), which is a product of HMF hydrogenolysis and contains an energy density 40% greater than that of ethanol. In recent years, much work has been done to effect the chemical conversion of fructose, glucose, cellulose, and even lignocellulosic biomass into HMF in high yield. Here, we provide an overview of methods to access HMF from carbohydrates with the highest potential to reach an industrial scale, along with a discussion of unmet technological needs necessary for commercialization.

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Lead Chromate Replacement: Old Hat but Still a Long Process

Source: Paint & Coatings Industry, September 2015

Authors: Jurgen Ott and Thomas Sowade

Global use of lead chromates has significantly declined in recent years due to the pigments' toxicity. In the past decade alone the quantity used has declined by more than half, down from 90,000 t in 2000. However, due to the excellent price/performance of lead chromates and the partial use of the pigments in color mixing systems, complete replacement has failed to occur so far. The recent approval requirement for REACH annex XIV in May of 2015 has again increased the focus on the issue of alternative formulation concepts.

Results at a Glance

- Replacing lead chromates is technically challenging but possible. A 1:1 replacement of the individual pigments is not possible.
- The method of choice is the smart combination of appropriate organic and inorganic pigments. The hiding power is achieved by the inorganic part. The organic part serves to adjust the color strength, chroma and hue angle.
- Weather resistance depends on the organic pigments used and can be adapted

to the specific requirements.

- Customized dry pigment preparations permit a 1:1 replacement in the near-full-shade color range and thus offer rapid and cost-effective formulation.
- Chroma enhancement of hybrid pigment technology offers great potential for formulating high-brilliance colors.
- Replacing lead chromate will increase the formula costs. The increase depends on the respective formula and/or the color, as well as the properties to be achieved.

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U.S. EPA - Green Infrastructure Wizard

[Source: U.S. Environmental Protection Agency, October 2015](#)

GIWiz offers you access to a repository of EPA-sourced Green Infrastructure tools and resources designed to support and promote sustainable water management and community planning decisions. The tools and resources available through GIWiz will help you analyze problems, understand management options, calculate design parameters, analyze costs and benefits, evaluate tradeoffs, engage stakeholders, and/or develop education and outreach campaigns. GIWiz is made possible through a cross-agency collaboration involving EPA's Office of Research and Development, Office of Policy, Office of Water, and Regional staff.

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