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Flavoring Chemicals in E-Cigarettes: Diacetyl, 2,3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarettes

Source: [Environmental Health Perspectives, December 8, 2015](#)

Authors: Joseph G. Allen, Skye S. Flanigan, Mallory LeBlanc, Jose Vallarino, Piers MacNaughton, James H. Stewart, and David C. Christiani

Background: There are over 7,000 e-cigarette flavors currently marketed. Flavoring chemicals gained notoriety in the early 2000's when inhalation exposure of the flavoring chemical diacetyl was found to be associated with a disease that became known as "Popcorn Lung." There has been limited research on flavoring chemicals in e-cigarettes.

Objective: To determine if the flavoring chemical diacetyl, and two other high-priority flavoring chemicals 2,3-pentanedione, and acetoin, are present in a convenience sample of flavored e-cigarettes. ...

Conclusion: Due to the associations between diacetyl, bronchiolitis obliterans and other severe respiratory diseases observed in workers, urgent action is recommended to further evaluate this potentially widespread exposure via flavored e-cigarettes.

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In This Issue

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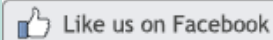
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See article by Elizabeth Grossman, "[The Toxic Chemical Causing Lung Disease Among Both Workers Making and Users Vaping E-Cigarettes](#)".

Also see article from *Milwaukee-Wisconsin Journal Sentinel*, "[New studies underscore risk of chemicals to coffee roasters](#)".



Advancing the ball while minding the gaps: EDF's comments on EPA's risk scoping documents for flame retardant chemicals

[Source: Environmental Defense Fund, December 1, 2015](#)

Author: Lindsay McCormick

Until June 2014, EPA had not completed a chemical risk assessment under its Toxic Substances Control Act (TSCA) authority in 28 years. Since then, EPA seems to have been somewhat picking up the pace: Over the past year and a half EPA has completed four additional risk assessments through the TSCA Work Plan Chemical Program, which is designed to assess the risks of priority chemicals currently on the market.

Recently, EPA initiated its assessment process for the next set of Work Plan chemicals, including three "clusters" of flame retardant chemicals. We fully support EPA's current efforts to assess the risks of these flame retardants -- with the end goal of managing identified risks -- and have provided quite extensive comments on EPA's initial scoping documents. In this post, I'll highlight some of our comments and recommendations; see the links at the end to access the comments themselves.

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Kemi proposes regulations for textiles and building products

[Source: Chemical Watch, December 3, 2015](#)

The Swedish Chemicals Agency, Kemi, is calling for an EU-wide regulation on hazardous chemicals in textiles, and a national regulation that restricts the emissions of "harmful substances" from building products.

In two reports, both assigned by the Swedish government, the agency sets out its proposals for the two product-specific regulations.

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Chemical Safety Assessment Using Read-Across: Assessing the Use of Novel Testing Methods to Strengthen the Evidence Base for Decision Making

[Source: Environmental Health Perspectives, December 2015](#)

Authors: Elisabet Berggren, et al.

Background: Safety assessment for repeated dose toxicity is one of the largest challenges in the process to replace animal testing. This is also one of the proof of concept ambitions of SEURAT-1, the largest ever European Union research initiative on alternative testing, co-funded by the European Commission and Cosmetics Europe. This review is based on the discussion and outcome of a workshop organized on initiative of the SEURAT-1 consortium joined by a group of international experts with complementary knowledge to further develop traditional read-across and include new approach data.

Objectives: The aim of the suggested strategy for chemical read-across is to show how a

traditional read-across based on structural similarities between source and target substance can be strengthened with additional evidence from new approach data -- for example, information from in vitro molecular screening, "-omics" assays and computational models -- to reach regulatory acceptance.

Methods: We identified four read-across scenarios that cover typical human health assessment situations. For each such decision context, we suggested several chemical groups as examples to prove when read-across between group members is possible, considering both chemical and biological similarities.

Conclusions: We agreed to carry out the complete read-across exercise for at least one chemical category per read-across scenario in the context of SEURAT-1, and the results of this exercise will be completed and presented by the end of the research initiative in December 2015.

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Home Depot leads chemical cleanup of flooring

[Source: GreenBiz.com, December 11, 2015](#)

[Author: Mike Schade](#)

This year, four of the nation's biggest home improvement and flooring retailers announced policies to phase out toxic phthalates in vinyl PVC flooring by the end of this month. Home Depot, Lowe's, Lumber Liquidators and Menards adopted these policies, driving a major multi-billion dollar market shift away from vinyl laden with phthalates, a group of chemicals used to make vinyl plastic soft and flexible.

These four policies are a major accomplishment for our Mind the Store campaign, which has been challenging major retailers to tackle phthalates and the other Hazardous 100+ Chemicals of High Concern in their supply chains.

Together, these retailers' actions will have a huge impact on getting phthalates out of flooring in homes, a top end market use for phthalates globally. They sell over \$10 billion of flooring annually. Their actions are featured in a series of new market transformation success stories released this week.

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Also see from Healthy Building Network, ["Phthalate-free Plasticizers in PVC"](#).

New Superefficiently Flame-Retardant Bioplastic Poly(lactic acid): Flammability, Thermal Decomposition Behavior, and Tensile Properties

[Source: ACS Sustainable Chemistry & Engineering, November 24, 2015](#)

[Authors: Xiaomin Zhao, Francisco Reyes Guerrero, Javier Llorca, and De-Yi Wang](#)

In this study, a superefficiently flame-retardant bioplastic poly(lactic acid) was developed by incorporating gas-solid biphasic flame-retardant N,N'-diallyl-P-phenylphosphonicdiamide (P-AA), into PLA matrix. The flame retardancy of PLA/P-AA was investigated by limiting oxygen index (LOI), vertical burning test (UL94), and cone calorimeter test. Surprisingly, it was noted that only 0.5 wt % loading of P-AA increased LOI value of PLA from 20.5 to 28.4 and passed UL 94 V-0 rating at 3.2 mm thickness. In order to understand the effect of P-AA on the thermal decomposition behavior of PLA, a comprehensive study was investigated in this paper, including (i) adopting modified Coats-Redfern method to study the thermal decomposition kinetics of PLA and PLA/P-AA systems, and (ii) characterizing the evolved gaseous products and the residues in the

condensed phase by thermogravimetry linked Fourier transform infrared spectroscopy (TGA-FTIR) and variable temperature Fourier transform infrared spectroscopy (VT-FTIR) techniques, respectively. Moreover, tensile properties of PLA and PLA/P-AA were studied.

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Regulation-Driven Innovation

Source: [Paint and Coatings Industry](#), October 1, 2015

Authors: Bob Ruckle, Steve Wilkowski, and Dave Wilson

Regulation and innovation are not words we generally associate with one another, especially when considering the interaction between governmental agencies and the coatings industry. And there is always robust debate about whether regulatory organizations are regulating too much or too little, depending on one's point of view. However, it is difficult to argue that regulatory changes and trends do not significantly influence both the products developed and a great deal of innovation in coatings formulations and their applications. When confronted with the challenges that regulatory changes present, the English proverb "necessity is the mother of invention" certainly seems appropriate.

This article provides a review of some of the most relevant regulatory changes and trends in the silicone industry, demonstrating how research and development (R&D) efforts have risen to the challenges that these new regulatory demands have presented. Improvements and solutions that positively impact human and environmental health and safety have clearly been driven by regulatory mandates, and will undoubtedly continue to influence R&D and innovation into the future.

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ISO 14004: Bring Environmental Management System Benefits to Your Business

Source: [Environmental Leader](#), December 10, 2015

Author: Jessica Lyons Hardcastle

Following the new ISO 14001 environmental management systems standard, the revision of its complementary standard, ISO 14004, has reached final draft stage and is slated for release on March 1, 2016.

The revised ISO 14004 aims to help organizations integrate an environmental management system such as ISO 14001 effectively into their business management.

In September, the International Organization for Standardization published its much-anticipated updated ISO 14001. More than 300,000 organizations globally use the environmental management standard and have achieved ISO 14001 certification -- and it's saving them millions of dollars.

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How Target and Walmart led a push to make over makeup

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

Author: Heather Clancy

More consumers than ever are inquiring about the makeup of cosmetics and other personal care products. The best anecdotal evidence? The pressure giant retailers Target

and Walmart have put on their suppliers -- especially over the past year -- not just to disclose their use of "ingredients of concern" but to phase them out entirely.

For the most part, the retailers' past efforts have been very company-specific. Both companies have published lists of chemicals they'd like to see go, such as triclosan, diethyl phthalate and preservative compounds that release formaldehyde.

Now, however, Walmart and Target are taking this cause industry-wide in collaboration with non-profit Forum for the Future. All three are encouraging other retailers, consumer products companies and other interested parties to participate in the forum's Beauty and Personal Care Products Sustainability Project.

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Tucson firefighters part of 3-year cancer study

[Source: FireRescue1.com, November 26, 2015](#)

TUCSON, Ariz. -- University of Arizona researchers will be keeping tabs on Tucson Fire Department personnel over the next three years to learn more about what role chemicals from fires play in causing cancer among firefighters.

The Federal Emergency Management Agency awarded ... \$1.5 million to the university to conduct the study into the cancer impact of synthetic materials found in everyday household items that burn during fires.

Those items include furniture and carpeting, and the firefighters can be exposed through skin contamination and inhalation of smoke, gases, vapors, diesel exhaust and particulates.

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Also see from The University of Arizona, "[UA Receives \\$1.5 Million for Firefighter Safety Research](#)".

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