Greenlist Bulletin

From the Toxics Use Reduction Institute
at the University of Massachusetts Lowell

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This is the bi-weekly bulletin of the TURI Library at the University of Massachusetts Lowell. Greenlist Bulletin provides previews of recent publications and websites relevant to reducing the use of toxic chemicals by industries, businesses, communities, individuals and government. You are welcome to send a message to mary@turi.org if you would like more information on any of the articles listed here, or if this email is not displaying properly.

One By One, States Are Giving Consumers The Right To Know About Chemicals In Products

Source: *Ensia*, September 9, 2015
Author: Rachel Cernansky

When evidence started to mount a few years ago around the adverse health effects of bisphenol A, an endocrine-disrupting chemical that's used in many plastics, the marketplace took note. Companies found themselves under pressure to stop using BPA and label products as clear of a hazard that everyone, it seemed, wanted to avoid.

But with tens of thousands of chemicals in use today and little restriction in the U.S. on which can be used in what products, BPA is but a speck on the tip of a chemical iceberg. Consumers might wish to avoid substances such as formaldehyde and arsenic (both known carcinogens) or phthalates (chemicals associated with cancer and endocrine disruption) in their clothing and other products, but the federal government rarely requires manufacturers to list everything that goes into clothing or other consumer goods outside of food. As a result, people are unaware if these or other substances are in their body lotion or their children's pajamas.

The clandestine nature of these chemicals, however, is starting to change, as states enact legislation requiring greater transparency from companies about what comprises their products.

Read more...

Also see in *Environmental Leader*, "TSCA Bill Would Weaken EPA's Ability to Stop Importation of Products with Unsafe Chemicals" and from Environmental Defense Fund, "Behind the Label: A Blueprint for Safer Chemicals in the Marketplace".

Alternatives Assessment: Partnership to Evaluate Flame Retardants in Printed Circuit Boards

Source: U.S. Environmental Protection Agency, September 8, 2015

In September 2015, EPA's Design for the Environment Program released a final alternatives assessment for flame retardants in printed circuit boards.

Developed by the Flame Retardants in Printed Circuit Boards Partnership, this assessment provides objective information to help members of the electronics industry more efficiently factor human health and environmental considerations into their decision-making when selecting flame retardants for PCB applications.

Read more...

See final alternatives assessment for Flame Retardants in Printed Circuit Boards. This report can also be searched by chapter here.

Also see from the U.S. EPA, Flame Retardants Used in Flexible Polyurethane Foam: An Alternatives Assessment Update. In addition, a new version of the final report on evaluating Bisphenol A Alternatives in Thermal Paper was posted with a technical correction in the hazard designation for developmental toxicity of Pergafast 201.

Three Small Businesses in Conn. and Mass. Awarded EPA Research Grants

Source: U.S. Environmental Protection Agency, September 15, 2015

BOSTON -- Three New England small businesses received $100,000 each from the US Environmental Protection Agency to develop and commercialize sustainable technologies that may help address pressing environmental issues.

Precision Combustion of North Haven, Conn.; 3D Array Technology of Vernon, Conn. and TIAX of Lexington, Mass., were among 19 small businesses nationwide to receive almost $2 million in research funds. ...

TIAX of Lexington, Mass. received funding for a project to develop a non-fluorinated, cost-competitive replacement for current fluorinated coatings to provide effective anti-stain protection to furniture, carpeting, and clothing. This project lets TIAX apply its green chemistry expertise to develop environmentally benign alternatives to the fluorinated coating technology that has contributed to environmental pollution and health hazards, according to Mildred Hastbacka, principal investigator at TIAX.

Read more...

Also see in *Environmental Leader*, "Unilever, EPA Develop Chemical Safety Tools".

Alternatives Assessment Frameworks: Research Needs for the Informed Substitution of Hazardous Chemicals

Source: *Environmental Health Perspectives*, September 4, 2015
Authors: Molly M. Jacobs, Timothy F. Malloy, Joel A. Tickner, and Sally Edwards

Background: Given increasing pressures for hazardous chemical replacement, there is growing interest in alternatives assessment to avoid substituting a toxic chemical with another of equal or higher concern. Alternatives assessment is a process for identifying, comparing and selecting safer alternatives to chemicals of concern (including those in materials, processes or technologies) on the basis of their hazards, performance, and economic viability.

Objectives: The purpose of this substantive review of alternatives assessment frameworks is to identify consistencies and differences in methods, and to outline needs for research and collaboration to advance science policy practice. ...

Conclusion: While alternatives assessment is becoming an important science policy field, there is a need for greater cross-disciplinary collaboration to refine methodologies in support of the informed substitution and design of safer chemicals, materials, and products. Case studies can provide concrete lessons to improve alternatives assessment.

Read more...

A Small Tweak To Pharmaceutical Production With A Big Environmental Impact

Source: Manufacturing.net, September 11, 2015
Author: Andy Szal

German scientists believe that a small tweak to common pharmaceuticals could dramatically reduce their impact on the environment and human health.

Researchers from Leuphana University of Lüneburg, writing in the journal *Environmental Science & Technology*, detailed slight changes made to the common beta blocker propranolol.

The altered drug retained its helpful properties for high blood pressure but also degraded more quickly than it[s] conventional form; initial testing also showed that the resulting byproducts were likely non-toxic.

Read more...

See original article in *Environmental Science & Technology*, "Re-Designing of Existing Pharmaceuticals for Environmental Biodegradability: A Tiered Approach with [Beta]-Blocker Propranolol as an Example".

Microbeads: The Very Tiny Troublemakers

Source: *The New York Times*, September 15, 2015
Author: Eleanor Randolph

The Great Lakes are being threatened by an invasion of tiny plastic orbs called microbeads, but lawmakers for one state that depends on this huge freshwater ecosystem have failed to do anything about it. That state is, of course, New York, where lawmakers this year sat on a good bill to ban these unnecessary bits of plastic.

That left local governments to try to do the state's job by banning these plastic irritants, county by county.

The culprits are often found in toothpaste, acne scrubs and other drugstore items. After use, these colorful little balls roll down the drain and slip through the country's sewer systems by the millions. Then they land in the nation's waterways where they can pick up toxic pollutants like PCBs. Fish mistake them for food, and then we humans eat those fish, microbeads and all.

Some states have already banned the beads, and some companies are busily trying to eliminate them from their products. In recent years, researchers have become especially concerned about the increasing concentration of microbeads in the Great Lakes, especially Lake Erie and Lake Ontario. Illinois and Indiana have enacted bans, and Canada is moving to add microbeads to its list of toxic substances.

Read more...

Also see from Oregon State University, "Ban on microbeads offers best chance to protect oceans, aquatic species".

NSF awards maximum support to Iowa State-based Center for Biorenewable Chemicals

Source: Iowa State University, September 3, 2015

AMES, Iowa -- The National Science Foundation (NSF) has added three years and $8.48 million to the grant supporting the NSF Engineering Research Center for Biorenewable Chemicals based at Iowa State University.

That brings NSF's total funding of the center (known as CBiRC, "See-burk") to the maximum

allowed: 10 years and $35.26 million. NSF support of the center began in September 2008 and will end in August 2018. After that, the center must be self-supporting.

Basil Nikolau, the center's deputy director and Iowa State's Frances M. Craig Professor of Biochemistry, Biophysics and Molecular Biology, said the center was built on a vision of biologists and biochemists working with engineers to solve common problems. The joint efforts have opened up new catalysts and technologies for the production of biorenewable chemicals.

Read more...

The newly revised ISO 14001 is here

Source: International Organization for Standardization, September 15, 2015
Author: Clare Naden

One of the world's most popular standards for environmental management has just been revised, with key improvements that make it fit for the future.

ISO 14001:2015, which sets out the requirements for an environmental management standard, is one of the world's most widely used standards and a key business tool for many organizations. With more than 300,000 certificates issued globally every year, it ranks high on the agenda of many organizations worldwide who place importance on their environmental impact.

A newly revised version has just been published, to ensure it remains relevant to the marketplace. ISO 14001:2015 responds to the latest trends, such as an increasing recognition by companies of the need to factor in both external and internal elements that influence their impact, including climate volatility.

Read more...

Also see the ISO 14000 - Environmental management page.

Study finds strong exposure correlation for related chemicals

Source: *Chemical Watch*, September 7, 2015

Human exposure to a chemical is likely to match that of related substances, according to a study of the 'exposome' -- the environmental equivalent of the human genome.

French and Spanish researchers have analysed data on pregnant women to find high levels of correlation between exposure levels of structurally related chemicals. The study indicates that results reported for single exposures need to be carefully interpreted in light of correlations to other exposures of related chemicals.

Read more...

See original study in *Environmental Science & Technology*, "The Pregnancy Exposome: Multiple Environmental Exposures in the INMA-Sabadell Birth Cohort".

Occupational Hydrofluoric Acid Injury from Car and Truck Washing - Washington State, 2001-2013

Source: Centers for Disease Control and Prevention, August 21, 2015
Authors: Carolyn K. Reeb-Whitaker, Carly M. Eckert, Naomi J. Anderson, David Bonauto

Exposure to hydrofluoric acid (HF) causes corrosive chemical burns and potentially fatal systemic toxicity. Car and truck wash cleaning products, rust removers, and aluminum brighteners often contain HF because it is efficient in breaking down roadway matter. The death of a truck wash worker from ingestion of an HF-based wash product and 48 occupational HF burn cases associated with car and truck washing in Washington State during 2001-2013 are summarized in this report. Among seven hospitalized workers, two required surgery, and all but one worker returned to the job. Among 48 injured workers, job titles were primarily auto detailer, car wash worker, truck wash worker, and truck driver. Because HF exposure can result in potentially severe health outcomes, efforts to identify less hazardous alternatives to HF-based industrial wash products are warranted.

Read more...

TURI's Note: Hydrogen fluoride was designated as a Higher Hazard Substance under TURA in 2015, with the designation effective for use in calendar year 2016. See the TURI/OTA fact sheet on the Designation of TURA Higher & Lower Hazard Substances in Massachusetts.

Please send a message to mary@turi.org if you would like more information on any of these resources. Also, please tell us what topics you are particularly interested in monitoring, and who else should see Greenlist. An online search of the TURI Library catalog can be done at http://library.turi.org for greater topic coverage.

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