Greenlist Bulletin

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

May 23, 2014

In This Issue

Join Our Mailing List!

Quick Links

Greenlist Bulletin Archives

TURI Website

Like us on Facebook

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.

Worker Illness After Nanomaterial Exposure Examined in First U.S. Case Study on Issue

Source: *Bloomberg BNA*, May 15, 2014
Author: Robert Iafolla

May 13 -- A U.S. worker suffered adverse health effects after handling nickel nanoparticles, according to a published case study that appears to be the first of its kind.

A chemist developed throat congestion with postnasal drip, flushing of the face and skin sensitivity to metals within a week of exposure to nickel nanoparticles, according to a case study published May 8 in the online version of the *American Journal of Industrial Medicine*.

Exposure consisted of periodically weighing out 1 to 2 grams of nickel nanoparticles without using protective measures. The chemist eventually moved to another lab that had no metal chemistry work, and her symptoms improved, the study said.

Read more...

See original case report in *American Journal of Industrial Medicine*, "Occupational handling of nickel nanoparticles: A case report".

Just released: Comprehensive Report on Safer Disinfectant Products

Source: SF Environment, April 10, 2014

Disinfectants are essential for maintaining public health, but are also hazardous. Most common disinfectants can cause asthma, many are corrosive to eyes and skin or pose hazards to aquatic life, and some cause cancer or reproductive harm. To complicate matters, consumers cannot tell whether the products really work, since the targets are microscopic organisms.

SF Environment, together with the Responsible Purchasing Network, has just completed a wide-ranging analysis of disinfectant products to help consumers make better choices, based on safety, germ-killing ability, compatibility with surfaces, and environmental impacts. Researchers compared health hazards, environmental impacts, germ-killing claims, surface incompatibilities, and other factors for 11 common active ingredients, 33 representative disinfectant products and 24 surface sanitizer products. This "alternatives analysis" also considered non-chemical options such as improved cleaning practices and the use of various tools, such as microfiber mops and electrolyzed water devices.

Read more...

View full report, "Safer Products and Practices for Disinfecting and Sanitizing Surfaces".

Also see San Francisco's alternatives assessment webinar on the project.

First-Ever Legal Agreements Seek to End Use of Cancer-Causing Chemical in Shampoos

Source: Center for Environmental Health, May 5, 2014

Oakland, CA -- The Center for Environmental Health (CEH) announced [today] it has reached the first-ever legal agreements with major companies, including Colgate Palmolive, Saks Inc., Walgreens and 23 others requiring the companies to end their use of the cancer-causing chemical cocamide DEA in shampoos and other personal care products. But more than 100 other companies have yet to resolve ongoing CEH litigation to end their use of the chemical, and the Campaign for Safe Cosmetics notes that there are more than 10,000 ingredients used in cosmetics and personal care products, many of which are also linked to adverse health effects. In their new report, Safer Suds: Eliminating a Cancer-Causing Chemical in Shampoos and Soaps, the two groups are urging Congress to adopt federal legislation for safer cosmetics.

Read more...

View report, "Safer Suds: Eliminating a Cancer-Causing Chemical in Shampoos and Soaps".

Also see the IARC Monograph for Coconut Oil Diethanolamine Condensate, as well as an NTP study on the substance.

The use of hazardous chemical substances in Lithuanian industry: how sound is it?

Source: *Journal of Cleaner Production*, June 1, 2014
Authors: Jolita Kruopienė, Jolanta Dvarionienė, Zita Dudutytė, Laura Stančė, Justė Buzelytė

Various chemical substances are one of the resources used for production processes and incorporated into the composition of goods for consumption. They perform numerous useful functions, but at the same time may be hazardous. The article analyses the relevance of the selected hazardous substances/groups of substances (organotin compounds, phenols and their ethoxylates, phthalates, brominated diphenylethers, chlorinated paraffins, and perfluortensides) to Lithuania, investigates their probable sources based on emission analysis, and looks into the substitution possibilities when seeking a more sustainable production and sustainable products.

All the investigated hazardous substances were found in emissions from various industry branches, indicating that they are still in use. The most relevant substances are nonylphenols and their ethoxylates, organotin compounds, phthalates (mainly Bis(2-ethylhexyl) phthalate (DEHP)). Industry awareness about hazardous substances is not very high, therefore further measures to encourage substitution are required. This shall be done in a double way - by approaching both producers and customers.

Read more...

Vermont Governor expected to sign bill regulating chemicals in children's products

Source: BizNGO, May 16, 2014
Author: Mark Rossi

Vermont is poised to join California, Maine, and Washington State with more comprehensive chemicals policy legislation. The Vermont legislature passed a bill giving the state Health Department authority to require disclosure of "chemicals of concern" used in children's products. The legislation, while less stringent than what environmental health advocates hoped for, also establishes rule-making enabling the department to recommend specific chemical restrictions. Governor Shumlin is expected to sign the bill.

See original article from *VPR News*.

Sprint Launches Carbon-Negative, Methane-Based iPhone Cases

Source: *Sustainable Brands*, May 13, 2014
Author: Jennifer Elks

[Today] Sprint announced it will be one of the first companies to use AirCarbon™, a new carbon-negative plastic made from methane gas, instead of petroleum. The material will be used in black and pink cell phone cases for the iPhone® 5 and iPhone® 5s that will be sold online exclusively on Sprint.com beginning later this month. Sprint says it is the first telecommunications company in the world to launch a carbon-negative product using AirCarbon.

"AirCarbon™ offers a new paradigm in which products we use every day, like cellphone cases, become part of the environmental solution," said Mark Herrema, Newlight Technologies co-founder and CEO. "Newlight's mission is to replace petroleum-based plastics with greenhouse gas-based plastics on a commodity scale by out-competing on price and performance -- harnessing the power of our choices as consumers to make change. We're thankful for companies like Sprint, which are helping us realize our founding vision of taking greenhouse gases and turning them into commercially useful products that generate both an environmental and economic benefit."

AirCarbon is manufactured by California-based Newlight Technologies, which uses a proprietary carbon-capture process to convert air and greenhouse gases (GHGs) into a plastic that has similar durability and performance characteristics to petroleum-based plastics. The conversion technology can synthesize high-performance thermoplastics from a wide range of sources, including methane and/or carbon dioxide from agricultural operations, water treatment plants, landfills, anaerobic digesters, or energy facilities. The material has wide applications, as it can then be formed and molded into almost any given design.

Read more...

TURI's Note: Thanks to Mark Rossi of BizNGO for highlighting this study in their recent 5/16/14 news update.

Frogs' immune systems weakened by chemicals, study finds

Source: *Environmental Health News*, May 13, 2014
Author: Brian Bienkowski

Young frogs exposed to flame retardants have weakened immune systems, which could leave them more susceptible to diseases that are ravaging amphibians worldwide.

A new laboratory experiment is the first to link flame retardants to immune system problems in frogs, and adds to evidence that pollutants may contribute to global declines of their populations.

Tadpoles of northern leopard frogs were exposed to polybrominated diphenyl ethers in their food from the time they could swim until they turned into frogs. Then scientists injected the young frogs with a foreign protein and found that they produced up to 92 percent fewer antibodies than non-exposed frogs.

"Making antibodies to get rid of pathogens is vital to frogs' ability to fend off disease," said Tawnya Cary, a postdoctoral scholar at the Institute for Biology Education at the University of Wisconsin, Madison, and lead author of the study.

Read more...

See original study in *Environmental Science & Technology*, "Immunomodulation in Post-metamorphic Northern Leopard Frogs, *Lithobates pipiens*, Following Larval Exposure to Polybrominated Diphenyl Ether".

TURI's Note: Thanks to Mark Rossi of BizNGO for highlighting this study in their recent 5/16/14 news update.

Phenotypic screening of the ToxCast chemical library to classify toxic and therapeutic mechanisms

Source: *Nature Biotechnology*, May 18, 2014
Authors: Nicole C Kleinstreuer, Jian Yang, Ellen L Berg, Thomas B Knudsen, Ann M Richard, Matthew T Martin, David M Reif, Richard S Judson, Mark Polokoff, David J Dix, Robert J Kavlock & Keith A Houck

Addressing the safety aspects of drugs and environmental chemicals has historically been undertaken through animal testing. However, the quantity of chemicals in need of assessment and the challenges of species extrapolation require the development of alternative approaches. Our approach, the US Environmental Protection Agency's ToxCast program, utilizes a large suite of in vitro and model organism assays to interrogate important chemical libraries and computationally analyze bioactivity profiles. Here we evaluated one component of the ToxCast program, the use of primary human cell systems, by screening for chemicals that disrupt physiologically important pathways. Chemical-response signatures for 87 endpoints covering molecular functions relevant to toxic and therapeutic pathways were generated in eight cell systems for 641 environmental chemicals and 135 reference pharmaceuticals and failed drugs. Computational clustering of the profiling data provided insights into the polypharmacology and potential off-target effects for many chemicals that have limited or no toxicity information. The endpoints measured can be closely linked to in vivo outcomes, such as the upregulation of tissue factor in endothelial cell systems by compounds linked to the risk of thrombosis in vivo. Our results demonstrate that assaying complex biological pathways in primary human cells can identify potential chemical targets, toxicological liabilities and mechanisms useful for elucidating adverse outcome pathways.

Read more...

See press release for the study here.

Time may not fully attenuate solvent-associated cognitive deficits in highly exposed workers

Source: *Neurology*, May 13, 2014
Authors: Erika L. Sabbath, ScD, Laure-Anne Gutierrez, MS, Cassandra A. Okechukwu, ScD, Archana Singh-Manoux, PhD, Hélène Amieva, PhD, Marcel Goldberg, MD, PhD, Marie Zins, MD, PhD and Claudine Berr, MD, PhD

Objective: To test the effects of lifetime occupational solvent exposure, as measured by dose and timing, on performance on multiple cognitive tests among retired French utility workers.

Methods: A total of 2,143 retirees in the GAZEL cohort underwent cognitive testing in 2010. Lifetime exposure to chlorinated solvents, petroleum solvents, and benzene was assessed using a job exposure matrix. We modeled effects of lifetime solvent dose, timing of last exposure, and a combination of these metrics on risk for cognitive impairment. ...

Conclusions: While risk of cognitive impairment among moderately exposed workers may attenuate with time, this may not be fully true for those with higher exposure. This has implications for physicians working with formerly solvent-exposed patients as well as for workplace exposure limit policies.

Read more...

See press release on study, "Brain may never fully recover from exposure to paint, glue, degreasers".

Here are 10 Mass. manufacturers that are bringing work back to the U.S.

Source: *Boston Business Journal*, May 16, 2014
Author: Jon Chesto

There are numerous examples throughout the Bay State of "reshoring," or the shift in recent years to bring manufacturing work that had been done overseas back to the U.S. The trend touches on a wide range of products, as evidenced by these examples listed here.

ACCUROUNDS (Avon): This precision machine shop, which makes metal products for high-tech clients, recently won back work that had been done in China for a company in the semiconductor industry. Another contract came AccuRounds' way after the work had been done at a European plant. The Avon company recently finished an 18,000-square-foot addition, a project that cost nearly $5 million including the new equipment. Its workforce has doubled in the past decade to 70 today.

Other companies...

- Dunn & Co. (Clinton)
- New Balance (Boston, Lawrence, Brookfield)
- Artaic (South Boston)
- Ground Water Rescue (Weymouth, Leominster)
- Brooks Brothers (Haverhill)
- Zeevee (Littleton, Methuen, & Salem, N.H.)
- Lenox (Longmeadow)
- AO Eyewear (Southbridge)
- Toner Plastics (Agawam)

Read more...

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.

Greenlist Bulletin is compiled by:

Mary Butow
Research and Reference Specialist
Toxics Use Reduction Institute
University of Massachusetts Lowell
600 Suffolk St., Wannalancit Mills
Lowell MA 01854
978-934-4365
978-934-3050 (fax)
mary@turi.org