

Greenlist Bulletin

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

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In This Issue

Pollution Prevention Week:

[Ecology's] Chemical Action Plans

Asthma in Inner-City Children at 5-11 Years of Age and Prenatal

Exposure to Phthalates: The Columbia Center for Children's Environmental Health Cohort

AkzoNobel, Photand to Develop Photosynthesis-Based Chemicals

Fracking workers exposed to dangerous amounts of benzene, study says

Flame Retardant Transfers from U.S. Households (Dust and Laundry Wastewater) to the Aquatic Environment

US EPA New Use Rulings on several nanomaterials come into effect in November 2014

Environmental pollutants make worms susceptible to cold

[Washington] State database puts focus on toxic chemicals in consumer products

Metal madness: Lead doesn't just poison birds, it scrambles everything they need to survive

EPA Seeks Feedback from the Public on Proposed Label Options for Safer Products

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Quick Links

[Greenlist Bulletin Archives](#)

[TURI Website](#)

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.



Pollution Prevention Week: [Ecology's] Chemical Action Plans

[Source: Washington State - Department of Ecology, September 17, 2014](#)

Author: Andrew Wineke

Sept. 15-21 is Pollution Prevention Week, and we're taking the week to explore some of the ways Ecology is working to keep our air clean, our waters pure, and our communities safe from toxic chemicals. ...

When it comes to protecting the environment, you need to have a strategy so you can prioritize potential problems and focus your efforts to find solutions. One of the ways Ecology does this is through chemical action plans.

With so many toxic chemicals being used today, we need to understand how they're being used and, once used, what happens when they're thrown away -- because there really is no "away." We need to find safer alternatives and collect or capture problem chemicals before they get into the environment.

[Read more...](#)

Also see the U.S. EPA's page on [Pollution Prevention Week](#).

Asthma in Inner-City Children at 5-11 Years of Age and Prenatal Exposure to Phthalates: The Columbia Center for Children's Environmental Health Cohort

Source: [Environmental Health Perspectives, September 17, 2014](#)

Authors: Robin M. Whyatt, Matthew S. Perzanowski, Allan C. Just, Andrew G. Rundle, Kathleen M. Donohue, Antonia M. Calafat, Lori A. Hoepner, Frederica P. Perera, and Rachel L. Miller

Background: Studies suggest that phthalate exposures may adversely affect child respiratory health.

Objectives: Evaluate associations between asthma diagnosed between child ages 5-11 years and prenatal exposures to butylbenzyl phthalate (BBzP), di-n-butyl phthalate (DnBP), di-2-ethylhexyl phthalate (DEHP) and diethyl phthalate (DEP).

Results: 154/300 (51%) children were examined by a physician because of reports of wheeze, other asthma-like symptoms and/or medication use; n=94 were diagnosed with current asthma and n=60 without current asthma. The remaining n=146 children were classified as non-asthmatic. Compared to non-asthmatics, prenatal metabolites of BBzP and DnBP were associated with a history [of] the asthma-like symptoms ($p < 0.05$) and with the diagnosis of current asthma: RR 1.17 (95% CI: 1.01, 1.35) and RR 1.25 (95% CI 1.04, 1.51) per natural log-unit increase, respectively. Risk of current asthma was > 70% higher among children with maternal prenatal BBzP and DnBP metabolite concentrations in the 3rd versus 1st tertile.

Conclusion: Prenatal exposure to BBzP and DnBP may increase the risk of asthma among inner-city children. However, as this is the first such finding, results require replication.

[Read more...](#)

See press release from Columbia University - Mailman School of Public Health, "[Phthalates Heighten Risk for Childhood Asthma](#)".

AkzoNobel, Photanol to Develop Photosynthesis-Based Chemicals

Source: [Environmental Leader, September 18, 2014](#)

AkzoNobel and Photanol have partnered to create technology that mimics the way plants use photosynthesis with a goal of producing "green" chemical building blocks that will eventually replace raw materials AkzoNobel currently obtains from fossil-based production. ...

The collaboration is focused on Photanol's existing proprietary technology that uses light to directly convert CO₂ from the air into predetermined raw materials such as acetic acid and butanol. The only by-product is oxygen.

The Photanol concept uses engineered cyanobacteria that turn CO₂ directly into predetermined products when exposed to light. By genetically introducing properties of fermentative bacteria into the cyanobacteria, the Photanol technology enables the bacteria to produce and excrete valuable compounds.

[Read more...](#)

Also see from *Environmental Leader*, "[PepsiCo to Phase Out HFC Equipment by 2020](#)".

Fracking workers exposed to dangerous amounts of benzene, study says

Source: [Los Angeles Times, September 11, 2014](#)

Author: Neela Banerjee

Some workers at oil and gas sites where fracking occurs are routinely exposed to high levels of benzene, a colorless gas that can cause cancer, according to a study by the National Institute for Occupational Health and Safety.

The agency, which is part of the Centers for Disease Control and Prevention, recommends that people limit their benzene exposure to an average of 0.1 of a part per million during their shift. But when NIOSH researchers measured the amount of airborne benzene that oil and gas workers were

exposed to when they opened hatches atop tanks at well sites, 15 out of 17 samples were over that amount.

Workers must open these hatches to inspect the contents of these tanks, which could include oil, waste water or chemicals used in high-volume hydraulic fracturing, or fracking. The real-time readings taken by researchers show that benzene levels at the wells "reached concentrations that, depending on the length of exposure, potentially pose health risks for workers," the researchers reported in the *Journal of Occupational and Environmental Hygiene*.

[Read more...](#)

Also see in *Environmental Science & Technology*, "[Ecological Risks of Shale Oil and Gas Development to Wildlife, Aquatic Resources and their Habitats](#)".

Flame Retardant Transfers from U.S. Households (Dust and Laundry Wastewater) to the Aquatic Environment

[Source: Environmental Science and Technology, September 14, 2014](#)

Authors: Erika D. Schreder and Mark J. La Guardia

Levels of flame retardants in house dust and a transport pathway from homes to the outdoor environment were investigated in communities near the Columbia River in Washington state (WA). Residential house dust and laundry wastewater were collected from 20 homes in Vancouver and Longview, WA and analyzed for a suite of flame retardants to test the hypothesis that dust collecting on clothing and transferring to laundry water is a source of flame retardants to wastewater treatment plants (WWTPs) and subsequently to waterways. Influent and effluent from two WWTPs servicing these communities were also analyzed for flame retardants. A total of 21 compounds were detected in house dust, including polybrominated diphenyl ethers (PBDEs), 2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB or EH-TBB), bis(2-ethylhexyl) 3,4,5,6-tetrabromophthalate (TBPH), 1,2-bis(2,4,6-tribromophenoxy)ethane (BTBPE) and decabromodiphenylethane (DBDPE), hexabromocyclododecane (HBCD or HBCDD), tetrabromobisphenol A (TBBPA), and three chlorinated organophosphate flame retardants (CIOPFRs), tris(1,3-dichloro-2-propyl)phosphate (TDCPP or TDCIPP), tris(1-chloro-2-propyl)phosphate (TCPP or TCIPP), and tris(2-chloroethyl)phosphate (TCEP). Levels ranged from 3.6 to 82,700 ng g⁻¹ (dry weight). Of the 21 compounds detected in dust, 18 were also detected in laundry wastewater. Levels ranged from 47.1 to 561,000 ng L⁻¹. CIOPFRs were present at the highest concentrations in both dust and laundry wastewater, making up 72% of total flame retardant mass in dust and 92% in laundry wastewater. Comparison of flame retardant levels in WWTP influents to estimates based on laundry wastewater levels indicated that laundry wastewater may be the primary source to these WWTPs. Mass loadings to the Columbia River from each treatment plant were by far the highest for the CIOPFRs and ranged up to 114 kg/yr for TCPP.

[Read more...](#)

See page from the Washington Toxics Coalition, "[From Homes To Waters - How Toxic Flame Retardants Pollute our Waterways](#)".

Also see from *Chemical & Engineering News*, "[California Bill Would Require Labels On Upholstered Furniture Indicating Whether They Contain Flame Retardants](#)".

US EPA New Use Rulings on several nanomaterials come into effect in November 2014

[Source: SafeNano, September 8, 2014](#)

The US Environmental Protection Agency (EPA) has finalised Significant New Use Rulings (SNUR) for 36 chemical substances; these rulings will take effect from 3 November 2014. Several of the regulated substances will be nanomaterials.

The SNURs will 'require persons who intend to manufacture or process any of these 36 chemical substances for an activity that is designated as a significant new use [...] to notify EPA at least 90 days before commencing that activity'. The significant new uses for the nanomaterials contained are mostly based around 'protection in the workplace', 'industrial, commercial, and consumer activities', and 'release to water'. These nanomaterials are:

- Multi-walled carbon nanotube (generic) (P-08-0392)
- Multi-walled carbon nanotubes (generic) (P-09-257)
- Multi-walled carbon nanofibers (generic) (PMNs P-10-115, P-10-116, P-10-117, P-10-118, P-10-119, P-10-120, P-10-121, P-10-122, P-10-123, P-10-124, P-10-125, and P-10-

- Carbide derived nanocarbon (generic)

[Read more...](#)

Environmental pollutants make worms susceptible to cold

[Source: University of Southern Denmark, September 19, 2014](#)

Authors: Martin Holmstrup and John Hjort Ipsen

Some pollutants are more harmful in a cold climate than in a hot, because they affect the temperature sensitivity of certain organisms. Now researchers from Danish universities have demonstrated how this happens, and it can help us better predict contamination risks, especially in the Arctic.

Imagine you are a species which over thousands of years has adapted to the arctic cold, and then you get exposed to a substance that makes the cold dangerous for you.

This is happening to the small white worm *Enchytraeus albidus*, and the cold provoking substance, called nonylphenol, comes from the use of certain detergents, pesticides and cosmetics.

Nonylphenol is suspected of being an endocrine disruptor, but when entering the worm it has another dangerous effect: It inhibits the worm's ability to protect the cells in its body from cold damage.

[Read more...](#)

See original study in *Environmental Science & Technology*, "[Lipophilic Contaminants Influence Cold Tolerance of Invertebrates through Changes in Cell Membrane Fluidity](#)".

Also read, "[More dangerous chemicals in everyday life: Now experts warn against nanosilver](#)".

[Washington] State database puts focus on toxic chemicals in consumer products

[Source: Union-Bulletin.com, September 12, 2014](#)

Author: Vicki Hillhouse

The state Department of Ecology has created a one-stop database for those interested in learning more about toxic chemicals in consumer products.

The database includes test results for products such as children's and baby items, clothing, personal care items, toys, children's upholstered furniture and electrical and electronic items, according to the announcement. Information on other product types -- office and art supplies, for instance -- will be added in the future.

According to tests, most manufacturers are following laws regulating the use of toxic chemicals.

Ecology tests products to understand where and why toxic chemicals are used, and to verify manufacturers are following state laws. The goal is to work with businesses and green chemists to find safer alternatives.

[Read more...](#)

Also see press release, "[Governor Cuomo Signs Legislation to Protect Young Children From Harmful Chemical Found in Consumer Products](#)".

Metal madness: Lead doesn't just poison birds, it scrambles everything they need to survive

[Source: Environmental Health News, September 10, 2014](#)

Author: Lindsey Konkell

NORTH GRAFTON, MA -- By the time the veterinarian saw the Canada goose, it was starving. Lumpy bulges ran the length of its neck, from its white chinstrap to its shrunken breast. It was too weak to squabble -- so sluggish, in fact, that the veterinarian could scoop up the goose and move it to the stainless steel table without throwing a blanket over it.

A team of four rushed in to treat the goose, flushing a bucketful of sand from its esophagus. But X-rays of its digestive tract bore out another problem -- tiny flecks in the sand. A blood test confirmed the veterinarian's suspicions: lead poisoning. The goose had eaten sand laced with lead at a pond near Boston.

It's well-known that high levels of lead kill birds. But now it's becoming clear that amounts commonly encountered by waterfowl and raptors can mess up their digestion, brains, hearts, vision and other body processes critical for their survival in the wild.

[Read more...](#)

Also see the rest of the series from *Environmental Health News*, "[Winged Warnings](#)".

TURI's Note: See our page on "[Lead in Fishing](#)".

EPA Seeks Feedback from the Public on Proposed Label Options for Safer Products

[Source: U.S. Environmental Protection Agency, September 8, 2014](#)

WASHINGTON -- The U.S. Environmental Protection Agency is redesigning its Design for the Environment Safer Product Label to better convey to consumers that products bearing the label meet the program's rigorous standard to be safer for people and the environment.

"We want consumers to be able to easily find safer products that work well," said Jim Jones, Assistant Administrator for Office of Chemical Safety and Pollution Prevention. "The agency wants to hear from the American people on which designs will help people identify household cleaning and other products that are safer for families and the environment."

The redesigned label is intended to help consumers, businesses and institutional buyers recognize products that have earned the EPA Safer Product Label. All ingredients in products that earn the logo have undergone a thorough evaluation to ensure they meet high standards for safety and performance. When people use these products, they are protecting their families and the environment by making safer chemical choices.

[Read more...](#)

Also see "[Help Us Make a \(New\) Mark on Safer Products](#)".

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 01854-2866
978-934-4365
978-934-3050 (fax)
mary@turi.org