Greenlist BULLETIN

TURI TOXICS USE REDUCTION INSTITUTE UMASS LOWELL

Toxics Use Reduction Institute April 13, 2017

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.

California Bill Would Prohibit Fluorinated Chemicals in Fast Food Packaging

Source: *The National Law Review*, March 31, 2017
Author: Packaging Law at Keller and Heckman

Following on the heels of a study by the Silent Spring Institute suggesting that fast food paper and paperboard may contain poly or perfluoroalkyl substances (PFAS) and that PFAS may pose safety or environmental concerns, California Assemblymember Phil Ting (D-San Francisco) has introduced a bill, AB-958, that would "prohibit a food provider from serving, selling, offering for sale, or offering for promotional purposes prepared food or fast food in, on, or with take-out food service ware or packaging that contains a fluorinated chemical". ...

The definition of fluorinated chemical in AB-958 is much broader than just PFAS, as it defines a fluorinated chemical as "an organic or inorganic substance that contains at least one fluorine atom, including, but not limited to, a perfluorinated or polyfluorinated alkyl substance, fluorinated polymer, or fluorotelomer-based chemical". Importantly, this would be a content based prohibition and, therefore, would apply even when there is no measurable migration of fluorinated chemicals to the food.

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Journal: Researchers can track hazardous chemicals from fast-food wrappers in the body

Source: University of Alabama at Birmingham, March 29, 2017
Author: Tyler Greer

Research teams from the University of Alabama at Birmingham's School of Medicine and the University of Notre Dame have developed a new method that enables researchers to radiolabel three forms of perfluorinated and polyfluorinated alkyl substances and track the fate of these chemicals when they enter the body.

This is a significant and timely advancement in identifying and tracking these PFASs, which are known to be harmful to the human body, and just last month were found to be used extensively in fast-food wrapping paper at many popular chain restaurants.

The novelty of the newly designed method is that one of the fluorine atoms on the PFAS molecule was replaced with a radioactive form of fluorine, the same radioisotope fluorine-^{18} that is used for medical positron emission tomography scans in hospitals around the world.

"For the first time, we have a PFAS tracer or chemical that we have tagged to see where it goes in mice," said Suzanne Lapi, Ph.D., senior author of the study published today in the journal, *Environmental Science & Technology Letters*. Lapi is an associate professor in UAB's Department of Radiology and Chemistry, and director of UAB's Cyclotron Facility. "Each of the tracers exhibited some degree of uptake in all of the organs and tissues of interest that were tested, including the brain. The highest uptake was observed in the liver and stomach, and similar amounts were observed in the femur and lungs."

Read more...

See original study in *Environmental Science & Technology Letters*, "Radiosynthesis and Biological Distribution of ^{18}F-Labeled Perfluorinated Alkyl Substances".

Dissolvable batteries made of silk

Source: *Chemical & Engineering News*, April 12, 2017
Author: Prachi Patel

A flexible battery made of gauzy silk films could power electronics and then melt away after a preset number of days.... The biodegradable battery produces a high enough voltage to power temporary medical implants designed to harmlessly dissolve in the body in a few weeks once their work is done.

Scientists have been making rapid progress on medical sensors and devices that could transmit images, stimulate wounds to heal, or deliver drugs for a short while before degrading. Most prototypes of these devices have been powered from an external source so they can only be placed skin-deep. To work deeper in the body, the devices will need an on-board power source.

Dissolvable batteries are an ideal solution. Researchers have made such batteries before using natural, biocompatible materials for the electrodes and electrolytes. One team made electrodes out of the skin pigment melanin, while others have used thin foils of magnesium or iron. The electrolytes have typically been solutions of various salts in water, but liquid electrolytes can leak out and degrade battery electrodes, and they make batteries relatively bulky.

Read more...

See original article in *ACS Energy Letters*, "A Biodegradable Thin-Film Magnesium

Primary Battery Using Silk Fibroin-Ionic Liquid Polymer Electrolyte".

EU automotive group develops criteria for selecting suitable alternatives

Source: *Chemical Watch*, April 11, 2017
Author: Leigh Stringer

The European Automotive Industry Association (Acea) has developed criteria for selecting 'non-regulated' alternative substances to help vehicle manufacturers avoid 'regrettable substitutions'.

The aim is for chemical manufacturers to use the criteria when identifying alternatives to supply in place of regulated substances. If a replacement substance meets the criteria, vehicle manufacturers will accept it. If it does not, the expectation is that the materials manufacturers and their downstream supply chain will begin a discussion on whether the alternative is suitable, and if there are other available options. ...

Acea's criteria
An alternative substance must:

- have a completed registration under REACH;
- be listed in all global legally binding chemical inventories;
- not meet the SVHC criteria and must not be expected to;
- not already be regulated or in the 'regulatory pipeline' in the EU or other regions;
- not be listed on the Global Automotive Declarable Substance List (Gadsl) or the Global List of Automotive Process substances (GLAPS);
- not belong to the same substance group as the original substance;
- be less hazardous than the original substance (to be defined case by case);
- be available, or have the potential to be, in amounts sufficient to supply customer needs; and
- fulfill customers technical requirements.

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Also see from *Chemical Watch*, "Market 'slow to take up safer alternatives'".

12 New England Organizations Honored for Outstanding Achievements in Energy Efficiency

Source: U.S. Environmental Protection Agency, April 6, 2017
Author: David Deegan

BOSTON -- EPA and the U.S. Department of Energy (DOE) are honoring 12 New England businesses and organizations for their commitment to saving energy, saving money, and protecting the environment through superior energy efficiency achievements. Recipients of the 2017 ENERGY STAR Partner of the Year Award include: Beacon Capital Partners of Boston, Efficiency Vermont, NH CORE Utilities of Manchester, N.H., and National Grid in Mass. and R.I.

Across the country, EPA and DOE are honoring 143 businesses and organizations in 34 states and the District of Columbia for their superior energy efficiency achievements. In 2015 alone, ENERGY STAR and all of its partners saved American families and businesses $34 billion on energy bills, while helping states achieve their air quality goals.

Read more...

Find additional information on each award winner's achievements here.

Europe poised for total ban on bee-harming pesticides

Source: *The Guardian*, March 23, 2017
Author: Damian Carrington

The world's most widely used insecticides would be banned from all fields across Europe under draft regulations from the European commission, seen by the Guardian.

The documents are the first indication that the powerful commission wants a complete ban and cite "high acute risks to bees". A ban could be in place this year if the proposals are approved by a majority of EU member states.

Bees and other pollinators are vital for many food crops but have been declining for decades due to habitat loss, disease and pesticide use. The insecticides, called neonicotinoids, have been in use for over 20 years and have been linked to serious harm in bees. ...

The EU imposed a temporary ban on the use of the three key neonicotinoids on some crops in 2013. However, the new proposals are for a complete ban on their use in fields, with the only exception being for plants entirely grown in greenhouses. The proposals could be voted on as soon as May and, if approved, would enter force within months.

Read more...

Also see from Environmental Working Group, "Cancer-Causing Pesticide 'Garbage' Taints Tap Water For Millions In California".

Prenatal Arsenic Exposure Alters Newborn Metabolite Profiles

Source: National Institute of Environmental Health Sciences, April 5, 2017

Researchers at the University of North Carolina at Chapel Hill Superfund Research Program (UNC SRP) Center have identified metabolites in umbilical cord blood that are associated with exposure to arsenic in the womb. The findings also show that differences in a mother's metabolism of arsenic may influence the metabolite profile of her baby. Assessing changes in the newborn's metabolite profile by looking at the full range of metabolites, or metabolome, may provide insight into how prenatal arsenic exposure could affect important pathways responsible for maintaining normal cell processes in the body.

Read more...

See original article in *Environmental Science & Technology*, "Neonatal Metabolomic Profiles Related to Prenatal Arsenic Exposure".

New version of Qsar Toolbox launched

Source: *Chemical Watch*, April 4, 2017
Author: Andrew Turley

The OECD has launched version four of its Qsar Toolbox, with some features designed specifically for companies looking to register substances under REACH ahead of the 2018 deadline.

According to 2014 figures for REACH registration dossiers, the Qsar Toolbox is the second most popular tool for Qsars after EPI Suite, including Ecosar. But their overall use remains low and strongly endpoint dependent, says Tomasz Sobański, project manager

for the work at Echa. Qsars are more frequently used for fate and environmental endpoints and use for high tier human health endpoints is "marginal".

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Target Agrees to Engage Corporate Peers on Phase out of Polystyrene Foam Packaging in E-Commerce

Source: *Sustainable Brands*, April 7, 2017
Author: Marie Perriard

As You Sow has withdrawn a shareholder proposal with Target Corp. that asks the company to phase out use of polystyrene foam packaging in its e-commerce operations, as a result of the company's willingness to work with its value chain and industry peers to discuss replacing foam with less harmful alternatives.

Polystyrene foam used for beverage cups, takeout containers, and packing materials is rarely recycled. Most used foam ends up in landfills where it can remain for hundreds of years. Due to its light weight, it becomes readily airborne and is often swept into waterways. Foam packaging materials in water break down into small indigestible pellets, which marine animals mistake for food. Ingestion of polystyrene can result in illness, death, and the destruction of marine ecosystems. More than 100 U.S. cities or counties, and nine countries, have banned or restricted foam packaging in various forms.

In light of these concerns, As You Sow filed shareholder proposals with Target and Amazon.com asking the companies to assess the reputational, financial, and operational risks associated with continued use of foam packing materials and a timeline to phase out its use.

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Advocacy Groups Ask for Ban on Common Pesticide

Source: *The New York Times*, April 5, 2017
Author: Roni Caryn Rabin

Advocacy organizations seeking to ban a pesticide linked to developmental disorders in children asked the courts Wednesday to intervene and order the Environmental Protection Agency to ban the pesticide from food within 30 days and from all uses within 60 days if it cannot prove it is safe.

The head of the E.P.A., Scott Pruitt, last week denied the petition to outlaw chlorpyrifos, a pesticide often used on apples, oranges and other crops, even though the agency's own safety experts concluded that the chemical should be outlawed. Mr. Pruitt did not present any new evidence that it is safe, and said the agency could not be forced to complete a review of chlorpyrifos until 2022, when there is a deadline for re-evaluating it.

The E.P.A. had been under a court order to respond by the end of March to a 10-year-old petition to ban the chemical, originally filed in 2007 by the Natural Resources Defense Council and Pesticide Action Network.

The most recent E.P.A. analysis concluded that children were being exposed to up to 140 times the safe levels of the pesticide through food alone. An earlier report said drinking water can also be contaminated.

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Also see from *Environmental Health Perspectives*, "Seven-Year Neurodevelopmental

Scores and Prenatal Exposure to Chlorpyrifos, a Common Agricultural Pesticide".

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