

This is the 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.

CPSC continue to use agency collaborations to focus on environmental health and safety of nanomaterials

[Source: Safenano, March 1, 2018](#)

The U.S. Consumer Product Safety Commission (CPSC) posted its Fiscal Year 2017 Annual Performance Report. According to the Report, in fiscal year (FY) 2017, CPSC met its target of five collaborations by establishing seven research collaborations on the environmental health and safety of nanomaterials.

The collaborations "will increase knowledge of the potential exposure to consumers from products that contain nanomaterials and explore methods to measure their release from consumer products".

[Read more...](#)

See report from CPSC, "[Fiscal Year 2017 Annual Performance Report](#)".

Also see from *Safenano*, "[EPA intends to conduct nanoparticle research over next five years](#)" and "[Switzerland adopts disclosure requirements for synthetic nanomaterials in fibrous or tubular form](#)".

See the [National Occupational Research Agenda for Manufacturing](#) which includes a focus on nanomaterials.

See information from *Safenano* regarding the Sustainable Nanotechnologies Project (SUN),

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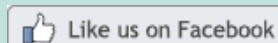
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**TURI's Boott Mills
Grand Opening
Monday, March 12, 2018
1pm - 3pm**

Join Chancellor Jacqueline Moloney as we celebrate the grand opening of TURI's new office and laboratory space at The Offices at Boott Mills West, 126 John Street, Suite 14, 2nd Floor, Lowell.

Please RSVP to Maria Scholl, email maria_s@turi.org or call 978-

TURI's note: See our December 2017 [fact sheet on nanomaterials](#).

Formation of Trivalent Chromium Passivation Layers

Source: [Products Finishing, March 1, 2018](#)

Authors: Jennifer Honselmann, Eric Mankel and Peter Volk

Over the years, research on trivalent chromium passivation (TCP) has expanded into many fields of application, among them as a replacement for conversion coatings containing hexavalent chromium (Cr⁶), known as chromates. REACH-compliant TCP processes have been found to be adequate replacements for chromates, however, implementing them in the highly safety-minded aviation industry, for example, requires fundamental knowledge about the layer composition of these types of conversion coatings.

This article outlines the formation of layers in trivalent chromium (Cr³) passivation over the copper-containing aluminum alloy EN-AW 2024. To derive the reaction processes that take place at the surface as a function of time, we analyzed the topography and the chemical composition of the coating, and electrochemically measured the corrosion potential during the conversion process.

[Read more...](#)

TURI's Note: See our fact sheet on [hexavalent chromium compounds](#). Also see information on our collaborative research regarding [hexavalent chromium free alternatives in the aerospace/defense sector](#).

Washington State takes action to eliminate use of PFAS in food packaging

Source: [Environmental Defense Fund, March 8, 2018](#)

Author: Tom Neltner

Around 1990, driven by a concern to keep heavy metals out of recycled products, many states adopted laws prohibiting the intentional addition of arsenic, cadmium, lead, and mercury to packaging and limited their total concentration to 100 parts per million. Manufacturers and suppliers of packaging and packaging components in these states were also both required to furnish a Certificate of Compliance to the packaging purchaser and provide a copy to the state and the public upon request. The Toxics in Packaging Clearinghouse currently reports that 19 states have adopted this type of legislation.

Out of concern about consumer's health and contamination of compost, on February 28, 2018, Washington State extended its heavy metal packaging law in a groundbreaking way. The legislature passed HB-2658 banning the intentional use of "perfluoroalkyl and polyfluoroalkyl substances" (PFAS) in food packaging made from plant fibers, pending a determination by the Washington Department of Ecology that safer alternatives are available. The law defines PFAS as "a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom".

[Read more...](#)

See information on [HB 2658 - Concerning the use of perfluorinated chemicals in food packaging](#).

See information from the Toxics In Packaging Clearinghouse on [States with Toxics in Packaging Laws](#).

Also see from Environmental Defense Fund, "[Trump's own budget office admits Obama-era regulations brought billions in benefits](#)".

UF Pharmacy researchers discover new method to harvest 'green' sunscreen ingredient

Source: [UF College of Pharmacy, January 31, 2018](#)

With spring break only weeks away, many Americans will apply sunscreen to protect against the sun's harmful ultraviolet radiation. Now, scientists at the University of Florida College of Pharmacy have identified a new method to harvest a key ingredient responsible for making the product more environmentally friendly.

By pushing the discovery to commercialization, UF researchers hope to make 'green' sunscreens more available, reducing dependence on oxybenzone- and octinoxate-based sunscreens. These harmful chemicals accumulate in aquatic environments; they're toxic to marine life and potentially disrupt the human reproductive system.

The researchers found a more efficient way to harvest the UV-absorbing amino acid known as shinorine, which marine organisms like cyanobacteria and macroalgae produce. The conventional method extracts shinorine from red algae, which takes as long as a year to grow and has a long processing time.

[Read more...](#)

See article in *ACS Synthetic Biology*, "[Photosynthetic Production of Sunscreen Shinorine Using an Engineered Cyanobacterium](#)".

See article in *Chemical & Engineering News*, "[Biocompatible Material Contains Sunscreen From The Sea](#)".

Why efforts to use green fuels sometimes run afoul

Source: [Chemical & Engineering News, March 5, 2018](#)

Author: Mitch Jacoby

Most people exercise a healthy dose of caution when handling fuels like gasoline and diesel. Health-wise, they know you shouldn't deeply inhale fuels' vapors or splash the liquids on your skin. Ingesting them is out of the question.

But it turns out that not everyone avoids contact with fuels: Some microbes love the stuff. In fact, various microorganisms thrive on gasoline and diesel fuel, substances that are clearly toxic to humans and animals. Unfortunately, this bug love can lead to fuel contamination, clogged or fouled equipment, and if left unchecked, even engine failure.

Scientists have long known about the threat of microbial fuel fouling. But they have more cause for concern now that the popularity of biofuels, such as biodiesel, is on the rise. Some bacteria and fungi crave the generous quantities of fatty acid compounds that make up biofuels.

[Read more...](#)

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