

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](mailto:mary@turi.org) if you would like more information on any of the articles listed here, or if this email is not displaying properly.

## **IT Manufacturers Using Safer Chemicals in Products**

*Source: [Environmental Leader, February 28, 2017](#)  
Author: [Jessica Lyons Hardcastle](#)*

Electronics manufacturers are increasingly using safer chemicals in their products, according to a report by TCO Certified, which provides independent sustainability certification for IT products.

The report compares 2016 environmentally and socially responsible working conditions in factories manufacturing TCO certified products to those in 2013. It covers tier one factories making certified product models for 16 brand owners: Acer, AOC, ASUS, BenQ, Dell, EIZO, Fujitsu, Hanns.G, HP, iiyama, Lenovo, LG, NEC, Philips, TERRA and ViewSonic.

It says brand owners have improved working conditions in their factories, particularly in areas such as discrimination and forced labor.

The report also finds a "paradigm shift" in the use of hazardous chemicals in IT products. TCO Certified only accepts flame retardants that have been independently benchmarked as safer alternatives for use in certified products. ...

The report comes as IT manufacturers are facing more scrutiny over -- and responsibility for -- the environmental and social impacts of their products and materials used to make them and dispose of them at end of life.

## **In This Issue**

### **[IT Manufacturers Using Safer Chemicals in Products](#)**

### **[Pregnant women's sex hormones waver with phthalate exposure](#)**

### **[Degreasing Chemical Concerns Spur Thousands of State Reviews](#)**

### **[EPA chief delays industrial chemical safety regulation](#)**

### **[U.S. Labor Department proposed delay to beryllium rule effective date](#)**

### **[Recommendations of Specifications, Standards, and Ecolabels for Federal Purchasing](#)**

### **[Policy reforms to update chemical safety testing](#)**

### **[Dow, BASF, Eastman stir up new formulas for safer chemicals](#)**

### **[High indoor VOC levels due to cleaning product overuse](#)**

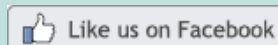
### **[Wastewater-Based Epidemiology as a New Tool for Estimating Population Exposure to Phthalate Plasticizers](#)**

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[TURI Website](#)



[Read more...](#)

*TURI's Note:* See information about [The New England Lead Free Electronics Consortium](#).

## Pregnant women's sex hormones waver with phthalate exposure

*Source:* [Environmental Health News, March 9, 2017](#)

*Author:* Brian Bienkowski

Women exposed to certain chemicals in flooring and food packaging early in pregnancy are more likely to have decreased free testosterone-hormones vital for fetal growth, according to a new study.

Estrogen and testosterone drive a fetus' genital development the first five to 18 weeks of a pregnancy. Altered levels of the sex hormones can lead to abnormalities in a baby's genitals. While the study doesn't prove phthalates in pregnant women lead to genital problems in babies, it suggests that the ubiquitous chemicals may impact fetal growth.

Researchers tested for evidence of phthalate chemicals in the urine of 591 women during their first trimester, from conception to 13 weeks. This window is the most important time for reproductive organ development in fetuses.

Women with higher levels of two types of phthalates had lower levels of free testosterone, according to the study published today in *The Journal of Clinical Endocrinology & Metabolism*.

[Read more...](#)

See original article in *The Journal of Clinical Endocrinology & Metabolism*, "[Early Prenatal Phthalate Exposure, Sex Steroid Hormones, and Newborn Birth Outcomes](#)".

*TURI's Note:* See our recently posted document on the work of the MA TURA Science Advisory Board on [Phthalate Esters](#).

## Degreasing Chemical Concerns Spur Thousands of State Reviews

*Source:* [Bloomberg BNA, March 9, 2017](#)

*Author:* Sylvia Carignan

States are finding dangerous concentrations of a degreasing chemical in indoor air in reviews of thousands of contaminated sites.

In some states, many properties -- often dry cleaners and gas stations as well as residential and industrial sites -- have previously been assessed for trichloroethylene, or TCE. The chemical solvent can migrate from contaminated groundwater up into soil and indoor air through a process called vapor intrusion, or sub-surface intrusion.

In Massachusetts, about one in four of the sites state officials are assessing for TCE need "further work," though that may not indicate unsafe levels, said Paul Locke, assistant commissioner for the state's Bureau of Waste Site Cleanup.

[Read more...](#)

*TURI's Note:* See our webpage on [Trichloroethylene \(TCE\)](#).

## EPA chief delays industrial chemical safety regulation

[Source: Chemical & Engineering News, March 15, 2017](#)

Author: Jeff Johnson

EPA Administrator Scott Pruitt has backed an industry request for delay and review of a new chemical safety regulation that sprang from the deaths of 15 people in a calamitous 2013 accident in Texas.

The new regulation would toughen requirements for industry-prepared risk management plans (RMP) intended to protect communities and workers from chemical-related accidents.

Pruitt's decision will delay implementation of the rule for 90 days, EPA says, adding that further extensions may be needed.

[Read more...](#)

See from the U.S. EPA, "[Final Amendments to the Risk Management Program \(RMP\) Rule](#)".

Also see from ICIS, "[Trump budget proposes to eliminate Chem Safety Board](#)".

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## U.S. Labor Department proposed delay to beryllium rule effective date

[Source: U.S. Department of Labor, March 1, 2017](#)

WASHINGTON -- The U.S. Department of Labor has announced a proposed delay in the effective date of the rule entitled Occupational Exposure to Beryllium, from March 21, 2017, to May 20, 2017.

The announcement follows a White House memorandum, entitled "Regulatory Freeze Pending Review," issued Jan. 20, 2017, that directed the department to undertake a review of any new or pending regulations and temporarily postpone the date that they would take effect.

The proposed delay will allow the Occupational Safety and Health Administration an opportunity for further review and consideration of the rule, in keeping with the White House memorandum. OSHA published the final rule on Jan. 9, 2017, and, in response to the memorandum, previously announced the effective date would be postponed to March 21, 2017. In its review process, OSHA has preliminarily determined that it is appropriate to further delay the effective date to May 20, 2017, for the purpose of additional review into questions of law and policy.

The proposed extension of the effective date will not affect the compliance dates of the beryllium rule. Comments regarding the additional proposed extension will be accepted through March 13, 2017.

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## Recommendations of Specifications, Standards, and Ecolabels for Federal Purchasing

[Source: U.S. Environmental Protection Agency, March 16, 2017](#)

The recommendations of specifications, standards, and ecolabels are intended to help

federal purchasers identify and procure environmentally sustainable products and services. Part of the recommendations are based on an independent assessment of private sector environmental performance standards and ecolabels against the multi-stakeholder developed EPA Guidelines for Environmental Performance Standards and Ecolabels.

Where an independent assessment of a standard or ecolabel against guidelines does not exist, the recommendations are based on specifications, environmental performance standards and ecolabels selected and utilized by other agencies.

[Read more...](#)

See from the U.S. EPA, "[EPA's Recommendations of Specifications, Standards and Ecolabels for Federal Purchasing](#)", and "[Search Products that Meet the Safer Choice Standard](#)".

Also see from NSF International, "[NSF International Sustainability Standards Included in EPA Recommendations for Federal Purchasing](#)", and "[New Green Icons Available in GSA Advantage!, Including "EPA Recommended" and "Safer Choice"](#)".

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## Policy reforms to update chemical safety testing

Source: [Science, March 10, 2017](#)

Authors: Andre Nel and Timothy Malloy

Toxicological evaluation of chemicals and newly emerging substances, such as engineered nanomaterials, is essential to protect human health and the environment. Traditional approaches for chemical safety assessment often use high-dose animal studies, human exposure estimates, linear dose extrapolations, and uncertainty factors to determine the circumstances under which human exposure is safe. But in 2016, major bipartisan reform of the antiquated Toxic Substances Control Act (TSCA) in the United States embraced a new paradigm emerging across the globe. This paradigm, relying largely on nonanimal, alternative testing strategies (ATS), uses mechanism-based in vitro assays and in silico predictive tools for testing chemicals at considerably less cost. We provide a cautious but hopeful assessment of this intersection of law and science. Although the law generally takes a sensible approach to using ATS for regulatory purposes, commitment by the U.S. Environmental Protection Agency (EPA) and its partner agencies remains the key to successful integration of ATS in TSCA. ...

Although ATS approaches offer many potential advantages (e.g., limitation of animal use, speed, mechanistic basis, and high-volume data generation), a key challenge is ensuring that in vitro testing accurately reflects in vivo outcomes in humans.

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## Dow, BASF, Eastman stir up new formulas for safer chemicals

Source: [Greenbiz.com, March 16, 2017](#)

Author: Barbara Grady

The ink on the new more stringent Chemical Safety Act for the 21st Century is barely dry, but a much more powerful force is already inspiring chemical and materials manufacturers to create safer chemicals -- the rule of the consumer marketplace.

Many buyers shun plastic beverage and food containers that might contain BPAs and phthalates, clothing that might contain flame retardants or perfluorinated chemicals, and household cleaning products with any of these ingredients. That has created a huge and fast-growing market opportunity for companies creating environmentally safe chemicals,

estimated by Trucost to be \$11 billion in 2015 and projected to grow ninefold to nearly \$100 billion by 2020.

Dow Chemical, BASF, and Eastman Chemical are prioritizing this opportunity with research and development that's driving the introduction of new, more naturally derived additives and materials that they can sell to product makers. Consumer goods companies such as Johnson & Johnson, Levi Strauss & Co., Unilever and Procter & Gamble have reengineered their supply chains to avoid environmental toxins. And retailers and consumers are rewarding both groups.

[Read more...](#)

See the 2015 Trucost report, "[Making the Business & Economic Case for Safer Chemistry](#)".

## High indoor VOC levels due to cleaning product overuse

[Source: Chemical Watch, March 16, 2017](#)

Author: Vanessa Zainzinger

UK homes contain potentially harmful levels of volatile organic compounds (VOCs) due to an overuse of cleaning products and a lack of ventilation, a study has found.

A team of researchers from the University of York and King's College London measured concentrations of VOCs in 25 residential UK homes.

Ninety-four percent of homes had levels of monoterpenes, mostly d-limonene or  $\alpha$ -pinene. According to the researchers, the two compounds "may well not be significant" in the vast majority of homes at the typical average concentrations found, but they can react with ozone to form formaldehyde and fine particles which do have adverse health effects.

[Read more...](#)

See original article in *Environmental Science: Processes & Impacts*, "[Unexpectedly high concentrations of monoterpenes in a study of UK homes](#)".

*TURI's Note:* See our [webpage on The Green Cleaning Lab](#) with DIY green cleaning recipes.

## Wastewater-Based Epidemiology as a New Tool for Estimating Population Exposure to Phthalate Plasticizers

[Source: Environmental Science & Technology, February 27, 2017](#)

Authors: Iria González-Mariño, Rosario Rodil, Iván Barrio, Rafael Cela, and José Benito Quintana

This study proposes the monitoring of phthalate metabolites in wastewater as a noninvasive and economic alternative to urine analysis for estimating human exposure to phthalates. To this end, a solid-phase extraction-liquid chromatography-tandem mass spectrometry method was developed, allowing for the determination of eight phthalate metabolites in wastewater (limits of quantification between 0.5 and 32 ng L<sup>-1</sup>). The analysis of samples from the NW region of Spain showed that these substances occur in raw wastewater up to ca. 1.6  $\mu\text{g L}^{-1}$  and in treated wastewater up to ca. 1  $\mu\text{g L}^{-1}$ . Concentrations in raw wastewater were converted into levels of exposure to six phthalate diesters. For two of them, these levels were always below the daily exposure thresholds recommended by the U.S. Environmental Protection Agency and the European Food Safety Authority. For the other four, however, estimates of exposure surpassed such a

threshold (especially the toddler threshold) in some cases, highlighting the significance of the exposure to phthalates in children. Finally, concentrations in wastewater were also used to estimate metabolite concentrations in urine, providing a reasonable concordance between our results and the data obtained in two previous biomonitoring studies.

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