

# Greenlist Bulletin

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

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## EPA Identifies Safer Substitutes for Toxic Flame Retardants

[Source: U.S. Environmental Protection Agency, June 12, 2014](#)

WASHINGTON -- The U.S. Environmental Protection Agency (EPA) is announcing safer alternatives to the flame retardants now used in consumer and commercial products, including building insulation and products with flexible polyurethane foam.

"EPA's findings for safer alternatives is great news for consumers and industry," said Jim Jones, Assistant Administrator for EPA's Office of Chemical Safety and Pollution Prevention. "We will now have safer alternatives for use in our products from furniture to car seats to building insulation."

Flame retardant chemicals such as hexabromocyclododecane (HBCD) and pentabromodiphenyl ether (pentaBDE) raise concerns for human health and the environment including potential reproductive, developmental, and neurological effects and can be persistent, bioaccumulative, and toxic to aquatic organisms.

[Read more...](#)

Access full report, [Flame Retardants Used in Flexible Polyurethane Foam: An Alternatives Assessment Update](#).

Read in *Chemosphere*, "[Health consequences of exposure to brominated flame retardants: A systematic review](#)".

Also see from U.S. EPA, [EPA Selects Six Universities to Help Find New Uses for Toxics Data](#).

Source: [Environmental Leader, June 10, 2014](#)

A federal government working group set up in the wake of an explosion at a fertilizer plant in West, Texas, in 2013 has released recommendations that agencies should consider new rules for the storage and handling of chemicals.

The Chemical Facility Safety and Security Working Group, which was established by Executive Order 13650, issued in response to the blast, has developed a preliminary list of options for improving chemical facility safety and security for further discussion and comment.

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## ANSES publishes its recommendations to reduce exposure to five substances which are reproductive toxicants and/or endocrine disruptors

Source: [ANSES - French Agency for Food, Environmental and Occupational Health & Safety, May 22, 2014](#)

ANSES was asked in 2009 by the Ministry of Health to identify and characterise exposure situations potentially posing a risk to health and associated with common consumer products and/or items containing certain chemicals classified as Category 2 reproductive toxicants (according to the European CLP regulation) or considered to be endocrine disruptors. Today, ANSES publishes several expert assessment reports and an opinion on five of these substances. The conclusions of the expert assessment reveal evidence of exposure situations that potentially pose a risk for embryonic or foetal development in association with exposure by pregnant women to toluene, n-hexane and cis-CTAC found in certain items or products. ANSES issues recommendations which aim to reduce the exposure of pregnant women to all five of the substances under study, in general and in the workplace in particular. It also is issuing recommendations specific to each of these substances.

[Read more...](#)

Also see from ANSES, "[Pesticide residues in foodstuffs: EFSA and ANSES publish their conclusions](#)".

## REACH Adds Four New Chemicals

Source: [Environmental Leader, June 19, 2014](#)

The European Chemicals Agency (ECHA) has added four new substances to the European Union's chemical rules -- known as the Registration, Evaluation, Authorization and Restrictions of Chemicals (REACH) program - REACH regulation Candidate List for authorization:

The new substances added to the Candidate List are:

- Cadmium chloride
- 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear [DIHP]
- Sodium peroxometaborate
- Sodium perborate; perboric acid, sodium salt

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## Banned in Europe, Safe in the U.S.

Source: [Ensisia, June 9, 2014](#)

Author: Elizabeth Grossman

*Who determines whether chemicals are safe -- and why do different governments come up with such different answers?*

June 9, 2014 -- In the United States, children can drink fruit juice beverages made with Red Dye No. 40 and eat macaroni and cheese colored with Yellow Dye No. 5 and No. 6. Yet in the U.K., these artificial colorings have been taken off the market due to health concerns, while in the rest of Europe, products that contain them must carry labels warning of the dyes' potential adverse effect on children's attention and behavior.

Atrazine, which the U.S. Environmental Protection Agency says is estimated to be the most heavily used herbicide in the U.S., was banned in Europe in 2003 due to concerns about its ubiquity as a water pollutant. Also widely used by U.S. farmers are several neonicotinoid pesticides that the European Commission says pose "high acute risks" to bees and has placed under a two-year moratorium. These pesticides -- with which about 90 percent of the corn planted in the U.S. is treated -- have been identified in numerous scientific studies as toxic to bees and are considered likely contributors to the alarming global decline of these essential pollinators.

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### The Path to Product Sustainability: How to Generate Business Value from Product Sustainability

[Source: Pure Strategies, 2014](#)

This report reveals a path from preparing - to progressing - to performing at the highest level of product sustainability. With case studies from The Coca-Cola Company, Timberland, Seagate, RB, and Henkel, this research report examines how companies set goals, use product assessments, and integrate sustainability into the product development process.

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Also see a technical report from the Cradle to Cradle Products Innovation Institute, "[Pilot Study: Impacts of the Cradle to Cradle Certified Products Program](#)".

### The State of the National Initiative on Prevention through Design

[Source: CDC - National Institute for Occupational Safety and Health, May 2014](#)

The national initiative on Prevention through Design (PtD), was launched in 2007 with the goal of designing out occupational hazards to protect workers. PtD encompasses all of the efforts to anticipate and design out hazards to workers in facilities, work methods and operations, processes, equipment, tools, products, new technologies, and the organization of work. Too often, workers (including those who perform maintenance tasks) have not been considered in the design process. The focus of PtD is on workers who execute the designs or have to work with the products of the design. The initiative has been developed to support designing out hazards, the most reliable and effective type of prevention. PtD can be practiced at all levels of the hierarchy of controls, but it is most effective as the means to eliminate hazards.

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### Minnesota's ban on triclosan adds fuel to the chemicals debate

[Source: The Guardian, June 19, 2014](#)

Author: Leigh Stringer

"Although many people have never heard of triclosan, most of us have it in our bodies", says state senator John Marty, who supported Minnesota's recent ban of the controversial chemical. The first state to do so, Minnesota's decision, he says, "adds to the growing pressure on personal care product manufacturers to phase it out".

Unilever, Procter & Gamble and Johnson & Johnson, all large corporate players in the personal care products industry, have either limited the use of triclosan in their products or announced plans to phase it out. But their decisions have been largely based on consumer concern rather than scientific evidence and legislation. All three dispute claims that triclosan is unsafe for humans.

The debate started in the 70s, when triclosan was first introduced in a surgical scrub. Since then, it has become the most commonly used antibacterial ingredient in consumer products worldwide. And with its increasing level of use, scrutiny of the chemical has followed. Some studies suggest that triclosan is now found throughout the environment, including surface waters, soil, fish tissue, even human breast milk. One study claims that triclosan was found in 75% of urine samples from more than 2,000 people analyzed.

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For a quick overview of issues with anti-microbials see Dr. Gary Ginsberg's [presentation](#).

## PAH Concentrations in Lake Sediment Decline Following Ban on Coal-Tar-Based Pavement Sealants in Austin, Texas

Source: [Environmental Science & Technology, June 16, 2014](#)

Authors: Peter C. Van Metre and Barbara J Mahler

Recent studies have concluded that coal-tar-based pavement sealants are a major source of polycyclic aromatic hydrocarbons (PAHs) in urban settings in large parts of the United States. In 2006, Austin, TX, became the first jurisdiction in the U.S. to ban the use of coal-tar sealants. We evaluated the effect of Austin's ban by analyzing PAHs in sediment cores and bottom-sediment samples collected in 1998, 2000, 2001, 2012, and 2014 from Lady Bird Lake, the principal receiving water body for Austin urban runoff. The sum concentration of the 16 EPA Priority Pollutant PAHs ( $\sum\text{PAH}_{16}$ ) in dated core intervals and surficial bottom-sediment samples collected from sites in the lower lake declined about 44% from 1998-2005 to 2006-2014 (means of 7980 and 4500  $\mu\text{g kg}^{-1}$ , respectively), and by 2012-2014, the decline was about 58% (mean of 3320  $\mu\text{g kg}^{-1}$ ). Concentrations of  $\sum\text{PAH}_{16}$  in bottom sediment from two of three mid-lake sites decreased by about 71 and 35% from 2001 to 2014. Concentrations at a third site increased by about 14% from 2001 to 2014. The decreases since 2006 reverse a 40-year (1959-1998) upward trend. Despite declines in PAH concentrations, PAH profiles and source-receptor modeling results indicate that coal-tar sealants remain the largest PAH source to the lake, implying that PAH concentrations likely will continue to decline as stocks of previously applied sealant gradually become depleted.

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Also see from the Minnesota Pollution Control Agency, "[Choosing alternatives to coal tar-based pavement sealcoats: Guidance for property owners, associations and managers](#)".

## Characterization of Nanomaterials in Metal Colloid-Containing Dietary Supplement Drinks and Assessment of Their Potential Interactions after Ingestion

Source: [ACS Sustainable Chemistry & Engineering, June 2, 2014](#)

Authors: Robert B. Reed, James J. Faust, Yu Yang, Kyle Doudrick, David G. Capco, Kiril Hristovski, and Paul Westerhoff

Little information is available regarding the suitability of analytical methods to evaluate claims regarding the presence of engineered nanomaterials (NMs) in consumer products, their potential toxic effects to humans, or their life cycle after product use. This study was designed to assess the potential interactions across the life cycle of eight commercially available dietary supplement drinks from a single vendor, all purported to contain metal NMs. Analysis showed that all of the products contained metallic NMs with average diameters below 50 nm as determined by dynamic light scattering and transmission electron microscopy. The products' intended use is human ingestion; in order to examine potential human health effects after ingestion, we investigated the interaction of NMs in the drinks with an in vitro cell system that faithfully mimics human intestinal cells. After exposure to concentrations of NMs as low as 3.5  $\mu\text{g/mL}$ , we found that the number of microvilli decreased relative to untreated controls for all drinks. From a life cycle perspective, consumption of drinks containing NMs will eventually result in sewer discharge of these NMs in feces. Screening tests for NM removal by biosolids in wastewater treatment plants (WWTPs) conducted using the NMs contained in supplement drinks showed variable removal of NMs, with the fractions removed ranging from  $(99 \pm 27)\%$  to  $(30 \pm 0.05)\%$ . The results showed that metal NM-based supplements may have an effect on the number of viable human intestinal microvilli and will likely enter the environment via either water or solids released from WWTPs.

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