

Greenlist Bulletin

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

June 1, 2012

In This Issue

nPB on EPA list of 'Work Plan Chemicals for Assessment During 2013 and 2014'

Bisphenol S, a New Bisphenol Analogue, in Paper Products and Currency Bills and Its Association with Bisphenol A Residues

Bisphenol S in Urine from the United States and Seven Asian Countries: Occurrence and Human Exposures

Rio+20: United Nations Conference on Sustainable Development

University researchers develop plastics from biomass

Children exposed to the common pollutant naphthalene show signs of chromosomal damage


Data Snarl: EPA wants some information submitted for REACH, but companies say they can't share the information

White House Blocking EPA Efforts to Issue Rules on Nanomaterials, Advocates Say

[Join Our Mailing List!](#)

Quick Links

[Greenlist Bulletin Archives](#)
[TURI Website](#)

 Like us on Facebook

nPB on EPA list of 'Work Plan Chemicals for Assessment During 2013 and 2014'

[Source: U.S. EPA, June 1, 2012](#)

What Chemicals Will EPA Assess in 2013/2014?

On June 1, 2012, EPA identified an [additional 18 of the Work Plan chemicals for assessment during 2013 and 2014](#).

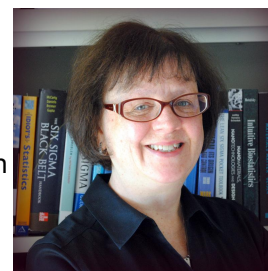
EPA identified these chemicals at this time for a variety of reasons, similar to those it used to identify the seven Work Plan chemicals to assess in 2012. The 18 chemicals span the range of the Work Plan screening criteria, including some chemicals associated with specific hazards such as potential carcinogenicity or reproductive or developmental toxicity; chemicals presenting persistent, bioaccumulative, and toxic potential; and chemicals found in biomonitoring or reported in consumer products. Some of these chemicals, such as the five chlorinated hydrocarbons, the three flame retardants, and the four fragrance chemicals, may present an effective opportunity to assess groups of related chemicals together.

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.



THANK YOU JAN!

After seven years as TURI's Library Manager, Jan Hutchins will be retiring on June 1. Prior to joining TURI in 2005, she served as Assistant Director of the Massachusetts Environmental Policy Act Office in the Executive Office of Energy and Environmental Affairs. Jan plans to move to the mountains of North Carolina with her husband, Charlie. In retirement she looks forward to having much more time to read and to enjoy the outdoors. We thank Jan for her years of excellent Greenlist Bulletins, and her many contributions to the program. We wish her the best!



[Read more...](#)

Bisphenol S, a New Bisphenol Analogue, in Paper Products and Currency Bills and Its Association with Bisphenol A Residues

Source: [Environmental Science and Technology, May 2012](#)

Authors: Chunyang Liao, Fang Liu, and Kurunthachalam Kannan

ABSTRACT: As the evidence of the toxic effects of bisphenol A (BPA) grows, its application in commercial products is gradually being replaced with other related compounds, such as bisphenol S (BPS). Nevertheless, very little is known about the occurrence of BPS in the environment. In this study, BPS was analyzed in 16 types of paper and paper products (n = 268), including thermal receipts, paper currencies, flyers, magazines, newspapers, food contact papers, airplane luggage tags, printing paper, kitchen rolls (i.e., paper towels), and toilet paper. All thermal receipt paper samples (n = 111) contained BPS at concentrations ranging from 0.0000138 to 22.0 mg/g (geometric mean: 0.181 mg/g). The overall mean concentrations of BPS in thermal receipt papers were similar to the concentrations reported earlier for BPA in the same set of samples. A significant negative correlation existed between BPS and BPA concentrations in thermal receipt paper samples ($r = -0.55$, $p < 0.0001$). BPS was detected in 87% of currency bill samples (n = 52) from 21 countries, at concentrations ranging from below the limit of quantification (LOQ) to 6.26 $\mu\text{g/g}$ (geometric mean: 0.029 $\mu\text{g/g}$). BPS also was found in 14 other paper product types (n = 105), at concentrations ranging from <LOQ to 8.38 $\mu\text{g/g}$ (geometric mean: 0.0036 $\mu\text{g/g}$; detection rate: 52%). The estimated daily intake (EDI) of BPS, through dermal absorption via handling of papers and currency bills, was estimated on the basis of concentrations and frequencies of the handling of papers by humans. The median and 95th percentile EDI values, respectively, were 4.18 and 11.0 ng/kg body weight (bw)/day for the general population and 312 and 821 ng/kg bw/day for occupationally exposed individuals. Among the paper types analyzed, thermal receipt papers were found to be the major sources of human exposure to BPS (>88%). To our knowledge, this is the first report on the occurrence of BPS in paper products and currency bills.

Bisphenol S in Urine from the United States and Seven Asian Countries: Occurrence and Human Exposures

Source: Environmental Science and Technology, May 2012

Authors: Chunyang Liao, Fang Liu, Husam Alomirah, Vu Duc Loi, Mustafa Ali Mohd, Hyo-Bang Moon, Haruhiko Nakata, and Kurunthachalam Kannan

ABSTRACT: As concern regarding the toxic effects of bisphenol A (BPA) grows, BPA in many consumer products is gradually being replaced with compounds such as bisphenol S (BPS). Nevertheless, data on the occurrence of BPS in human specimens are limited. In this study, 315 urine samples, collected from the general populations in the US, China, India, Japan, Korea, Kuwait, Malaysia, and Vietnam, were analyzed for the presence of total BPS (free plus conjugated) concentrations by high-performance liquid chromatography tandem mass spectrometry (HPLC-MS/MS). BPS was detected in 81% of the urine samples analyzed at concentrations ranging from below the limit of quantitation (LOQ; 0.02 ng/mL) to 21 ng/mL (geometric mean: 0.168 ng/mL). The urinary BPS concentration varied among countries, and the highest geometric mean concentration [1.18 ng/mL or 0.933 $\mu\text{g/g}$ creatinine (Cre)] of BPS was found in urine samples from Japan, followed by the US (0.299 ng/mL, 0.304 $\mu\text{g/g}$ Cre), China (0.226 ng/mL, 0.223 $\mu\text{g/g}$ Cre), Kuwait (0.172 ng/mL, 0.126 $\mu\text{g/g}$ Cre), and Vietnam (0.160 ng/mL, 0.148 $\mu\text{g/g}$ Cre). Median concentrations of BPS in urine samples from the Asian countries were one order of magnitude lower than the median concentrations reported earlier for BPA in the same set of samples, with the exception of samples from Japan. There were no significant differences in BPS concentrations between genders (male versus female), age groups (categorized as ≤ 19 , 20-29, 30-39, 40-49, and ≥ 50 years), or races (Caucasian versus Asian). The daily intake (EDI) of BPS was estimated on the basis of urinary concentrations using a simple pharmacokinetic approach. The median EDI values of BPS in Japan, China, US, Kuwait, Vietnam, Malaysia, India, and Korea were 1.67, 0.339, 0.316, 0.292, 0.217, 0.122, 0.084, and 0.023 $\mu\text{g/person}$, respectively. This is the first study to report the occurrence of BPS in human urine.

Rio+20: United Nations Conference on Sustainable Development

[Source: United Nations, 2012](#)

About the Rio+20 Conference

At the Rio+20 Conference, world leaders, along with thousands of participants from governments, the private sector, NGOs and other groups, will come together to shape how we can reduce poverty, advance social equity and ensure environmental protection on an ever more crowded planet to get to the future we want.

The United Nations Conference on Sustainable Development (UNCSD) is being organized in pursuance of General Assembly Resolution 64/236 (A/RES/64/236), and will take place in Brazil on 20-22 June 2012 to mark the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED), in Rio de Janeiro, and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg.

The Rio+20 Conference It is envisaged as a Conference at the highest possible level, including Heads of State and Government or other representatives. The Conference will result in a focused political document.

Themes of the Conference

The Conference will focus on two themes: (a) a green economy in the context of sustainable development poverty eradication; and (b) the institutional framework for sustainable development.

Seven priority areas

The preparations for Rio+20 have highlighted seven areas which need priority attention; these include decent jobs, energy, sustainable cities, food security and sustainable agriculture, water, oceans and disaster readiness.

Please click [here](#) for more information on the conference.

University researchers develop plastics from biomass

[Source: Plastics Today, May 3, 2012](#)

Author: Heather Caliendo

A team of chemical engineers from the University of Massachusetts Amherst and the University of Delaware claims it has discovered a new way to make plastic bottles from biomass rather than petroleum.

Researchers that made the discovery are part of the [Catalysis Center for Energy Innovation](#) (CCEI), which is comprised of more than 20 faculty members working together to create new technologies for the production of biofuels and chemicals from plant biomass. The center is funded by the [U.S. Department of Energy](#).



Paul Dauenhauer, chemical professor at UMass Amherst, told **PlasticsToday** one of the major goals of the center is to effectively utilize sugars for the production of renewable polymers including PET.

The new discovery demonstrates an efficient, renewable way to produce the chemical p-xylene, or paraxylene, according to the news release.

"You can mix our renewable chemical with the petroleum-based material and the consumer would not be able to tell the difference," Dauenhauer said.

The first step in the process is the conversion of lignocellulosic biomass such as trees or grasses

to sugars such as glucose, Dauenhauer said. The team then removes some of the oxygen from the sugar to produce a new molecule called dimethylfuran. The final step includes the addition of dehydrated ethanol, which results in the chemical, p-xylene.

[Read more...](#)

Children exposed to the common pollutant naphthalene show signs of chromosomal damage

[Source: Columbia University's Mailman School of Public Health, May 29, 2012](#)

Naphthalene is best known as the key ingredient in mothballs

According to a new study, children exposed to high levels of the common air pollutant naphthalene are at increased risk for chromosomal aberrations (CAs), which have been previously associated with cancer. These include chromosomal translocations, a potentially more harmful and long-lasting subtype of CAs.

Researchers from the Columbia Center for Children's Environmental Health (CCCEH) at the Mailman School of Public Health, Columbia University Medical Center, and the Centers for Disease Control and Prevention (CDC) report the new findings in *Cancer, Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research.

Naphthalene is found in both outdoor and indoor urban air. It is present in automotive exhaust, tobacco smoke, and is the primary component of household mothball fumes. Classified as a possible carcinogen by the International Agency for Cancer Research, naphthalene belongs to a class of air pollutants called polycyclic aromatic hydrocarbons (PAH). Prior research at the CCCEH has established a link between prenatal exposure to PAH and increased risk for childhood obesity, IQ deficits, and CAs. The new study is the first to present evidence in humans of CAs, including translocations, associated with exposure to one specific PAH-naphthalene during childhood.

[Read more...](#)

Data Snarl: EPA wants some information submitted for REACH, but companies say they can't share the information

[Source: Chemical & Engineering News, May 29, 2012](#)

Author: Cheryl Hogue

The Environmental Protection Agency and some U.S. chemical manufacturers appear caught in a standoff that involves the European Union. The companies have provided toxicity data for some of their products to the EU under the Registration, Evaluation, Authorisation & Restriction of Chemical Substances (REACH) law. Now, EPA is asking these companies for the same information they provided to the EU. But the firms say they can't legally deliver it.

This issue is coming to a head around an October 2011 proposal from EPA that would require makers of 23 high-production-volume (HPV) chemicals to generate basic toxicity data for their products. Substances made commercially in amounts of at least 1 million lb per year are designated HPV.

In the proposal, issued under the Toxic Substances Control Act (TSCA), the agency said it wants the information because there is or may be substantial human exposure to the 23 compounds. The agency also said it has insufficient data to determine the effects of those chemicals on human health or the environment.

The move is part of EPA's effort to complete data collection for HPV chemicals. Manufacturers voluntarily are supplying-or have submitted-toxicity data on more than 1,800 HPV compounds under a partnership launched in 1998 by EPA, the advocacy group Environmental Defense Fund (EDF), and the chemical industry. Meanwhile, the agency has been pursuing toxicity data for more than 100 other HPV substances for which companies have not volunteered to provide information.

[Read more...](#)

White House Blocking EPA Efforts to Issue Rules on Nanomaterials, Advocates Say

[Source: Chemical Regulation Reporter, May 24, 2012](#)

Authors: Patrick Ambrosio and Pat Rizzuto


The White House appears to be blocking Environmental Protection Agency efforts to tighten oversight of engineered nanoscale pesticides and other chemicals, according to environmental and safety advocates.

Richard Denison, a senior scientist with the Environmental Defense Fund, told BNA May 23 that he has spoken with EPA officials who have told him they do not expect any regulations for engineered nanoscale pesticides or chemicals to be approved by the White House Office of Management and Budget.

"My understanding is that there is a view in some circles in the White House that they do not want to stigmatize nanomaterials nor stifle the technology even by requiring the reporting of information that EPA needs to make judgments as to whether there are risks," Denison said.

Jaydee Hanson, senior policy analyst at the Center for Food Safety, said he believes OMB will not approve the agency's preferred approach to collect data on nanoscale pesticide ingredients under Section 6(a)(2) of the Federal Insecticide, Fungicide, and Rodenticide Act.

[Read more...](#)



You are welcome to 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
TURA Program Research Assistant
Toxics Use Reduction Institute
University of Massachusetts Lowell
600 Suffolk St., Wannalancit Mills
Lowell MA 01854
978-934-4365
978-934-3050 (fax)
mary@turi.org