

Greenlist Bulletin

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

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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.



Editor's Note

Greetings Greenlist subscribers:

In recognition of February as American Heart Month, we have included several articles/resources with regard to the effects of air pollution on cardiovascular health.

Many thanks to all of you who work tirelessly to reduce exposures to air pollution. Your efforts to contribute to each of our hearts being healthier does not go unnoticed!

Best,
Mary

Air Pollution as a Heart Threat

[Source: New York Times, November 15, 2013](#)

Author: Deborah Blum

Bit by bit over the past few decades, scientists have been building a new understanding of the ways that air pollution threatens human health. Much of their attention has been focused on lung diseases, including cancers. With good reason, it turns out: just last month, the World Health Organization declared air pollution to be one of the planet's most dangerous environmental carcinogens.

But cardiovascular disease is much more common than cancer. Sadly, there is now a pile of evidence, sometimes startling, that air pollution also plays a role in heart attacks and strokes. The new studies suggest that air pollution not only worsens cardiovascular disease - but can also cause it.

[Read more...](#)

Also see the U.S. Environmental Protection Agency's page on "[Air Pollution and Cardiovascular Disease](#)" and the Centers for Disease Control and Prevention, NIOSH page on "[Occupational Heart Disease](#)".

View [several initiatives](#) from the National Institute of Environmental Health Sciences with regard to air pollution, specifically the article "[Drastic reduction in air pollution may decrease CVD risk](#)".

Environmental Cardiology: Studying Mechanistic Links Between Pollution and Heart Disease

[Source: American Heart Association, *Circulation Research*, 2006](#)

Author: Aruni Bhatnagar

Environmental factors are considered key determinants of cardiovascular disease. Although lifestyle choices such as smoking, diet, and exercise are viewed as major environmental influences, the contribution of pollutants and environmental chemicals is less clear. Accumulating evidence suggests that exposure to pollutants and chemicals could elevate the risk of cardiovascular disease. Many epidemiological studies report that exposure to fine particles present in ambient air is associated with an increase in cardiovascular mortality. Statistically significant relationships between particulate air pollution and ischemic heart disease, arrhythmias, and heart failure have been reported. Animal studies show that exposure to ambient air particles increases peripheral thrombosis and atherosclerotic lesion formation. Exposures to arsenic, lead, cadmium, pollutant gases, solvents, and pesticides have also been linked to increased incidence of cardiovascular disease. Mechanistically, these effects have been attributed to changes in the synthesis or reactivity of nitric oxide that may be caused by environmental oxidants or increased endogenous production of reactive oxygen species. Additional studies are urgently needed to: identify the contribution of individual pollutants to specific aspects of cardiovascular disease; establish causality; elucidate the underlying physiological and molecular mechanisms; estimate the relative susceptibility of diseased and healthy individuals and that of specific population groups; and determine whether pollutant exposure are risk correlates, that is, whether they influence major risk factors, such as hypertension, cholesterol, or diabetes, or whether they contribute to the absolute risk of heart disease. Collectively, these investigations could contribute to the emergent field of environmental cardiology.

[Read more...](#)

Also read article in the June 2013 issue of *Interdisciplinary Toxicology*, "[Lipophilic chemical exposure as a cause of cardiovascular disease](#)".

Perfluorooctanoic Acid and Cardiovascular Disease in US Adults

[Source: *JAMA Internal Medicine*, October 8, 2012](#)

Authors: Anoop Shankar, Jie Xiao, Alan Ducatman

Background Cardiovascular disease (CVD) is a major public health problem. Identifying novel risk factors for CVD, including widely prevalent environmental exposures, is therefore important. Perfluorooctanoic acid (PFOA) is a manmade chemical used in the manufacture of common household consumer products. Biomonitoring surveys have shown that PFOA is detectable in the blood of more than 98% of the US population. Experimental animal studies suggest that an association between PFOA and CVD is plausible. However, this association in humans has not been previously examined. We therefore examined the independent relationship between serum PFOA levels and CVD outcomes in a representative sample of Americans. . . .

Results We found that increasing serum PFOA levels are positively associated with CVD and PAD, independent of confounders such as age, sex, race/ethnicity, smoking status, body mass index, diabetes mellitus, hypertension, and serum cholesterol level. Compared with quartile 1 (reference) of PFOA level, the multivariable odds ratio (95% CI) among subjects in quartile 4 was 2.01 (1.12-3.60; $P = .01$ for trend) for CVD and 1.78 (1.03-3.08; $P = .04$ for trend) for PAD.

Conclusion Exposure to PFOA is associated with CVD and PAD, independent of traditional cardiovascular risk factors.

[Read more...](#)

Also read this article in the upcoming issue of *Chemosphere*, "[The association between PFOA, PFOS, and serum lipid levels in adolescents](#)".

Subway says it's removing chemical from bread

[Source: The Washington Post, February 5, 2014](#)

NEW YORK -- Subway says it's in the process of removing a chemical from its bread as part of an ongoing effort to improve its recipes.

The announcement comes after a popular food blogger launched a petition this week asking the sandwich chain to stop using the ingredient, called azodicarbonamide. A representative for Subway says the change was underway before the petition was launched, but did not immediately provide details on when it started or when it would be complete.

[Read more...](#)

See link to GoodGuide information on [Azodicarbonamide in commercial food products](#).

Also read in Examiner.com, "[Azodicarbonamide: Another reason to avoid most bread](#)".

Study for the Review of the List of Restricted Substances under RoHS2

[Source: Environment Agency Austria, January 2014](#)

Electrical and electronic equipment (EEE) contains an increasing variety of organic and inorganic chemical substances. Some of these substances have properties which are hazardous to human health and/or the environment.

According to the RoHS Directive (2002/95/EC) the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) in EEE has been banned/restricted since 2006. In 2011 the recast of the Directive (RoHS2) came into force. It aims inter alia at specifying the conditions for adapting the RoHS Directive to the technical and scientific progress. This includes adaptation of the list of substances being restricted in EEE (Annex II to the Directive). In particular it aims at a better prevention of risks to human health and the environment, with a particular focus on workers involved in the management of WEEE.

Access final report [here](#).

EPA's 2012 Toxics Release Inventory Shows Air Pollutants Continue To Decline

[Source: The Chattanooga.com, February 4, 2014](#)

Total releases of toxic chemicals decreased 12 percent from 2011-2012, according to the U.S. Environmental Protection Agency's (EPA) annual Toxics Release Inventory (TRI) report released on Tuesday. The decrease includes an eight percent decline in total toxic air releases, primarily due to reductions in hazardous air pollutant (HAP) emissions.

"People deserve to know what toxic chemicals are being used and released in their backyards, and what companies are doing to prevent pollution," said EPA Administrator Gina McCarthy. "By making that information easily accessible through online tools, maps, and reports, TRI is helping protect our health and the environment."

[Read more...](#)

Also read from the U.S. EPA, "[EPA Analysis Shows Decrease in 2012 Toxic Chemical Releases in Massachusetts](#)".

State cosmetic database focused on chemicals falling short of mission

[Source: San Jose Mercury News, February 12, 2014](#)

Author: Heather Somerville

A widely touted state program to give the public more information about harmful chemicals in cosmetics is falling short of its mission, hobbled by a lack of participation from the cosmetics industry, outdated information and a loophole that lets companies keep their ingredients secret.

Experts say the shortcomings of the California Safe Cosmetics Program Product Database, which went online a month ago, reveal the challenges the state faces in trying to impose transparency on a national \$60 billion industry that had been allowed to keep harmful ingredients off product labels.

[Read more...](#)

Also read in *The Guardian*, "[What will it take to eliminate hazardous chemicals from everyday products?](#)" and at *myChamplainValley.com*, "[Pushing to Regulate Toxic Chemicals in Vermont](#)".

Denmark publishes phthalates-avoidance guidance for industry

Source: [ChemicalWatch](#), January 23, 2014

The Danish Environmental Protection Agency (EPA) and various industry groups have jointly published guidance advising businesses on how to avoid including phthalates that have been identified as substances of very high concern (SVHC) in their products.

The guide advises companies how to decide whether a supplier is reliable, and how to ensure that all articles bought are free of the identified phthalates. It also gives some background information on the management of the substances under REACH and CLP.

[Read more...](#)

Access guide, "[Business guidance on phthalates: How to limit phthalates of concern in articles?](#)".

How crowdsourcing can boost green chemistry

Source: [GreenBiz.com](#), February 7, 2014

Author: Monica Becker

Crowdsourced or Challenge Driven Innovation (CDI) is a way to create new markets and solve problems quickly and cost effectively by harnessing diverse and creative on-demand talent outside one's own organization.

CDI is typically used to complement in-house innovation programs. A number of companies have launched in the decade to provide platforms and services to assist companies, government agencies and nonprofits in running CDI projects.

As part of its effort to mainstream green chemistry, the manufacturers, brands and retailers in the Green Chemistry & Commerce Council (GC3) has explored CDI and other new innovation models and programs that can be used to accelerate green chemistry. The GC3 took a close look at InnoCentive, given its successful track record in the green chemistry space.

[Read more...](#)

See presentations from a two-day National Academy of Sciences "[event on 'Applying 21st Century Toxicology to Green Chemical and Material Design' in environmental health decisions](#)".

Water safety threatened by North Carolina coal ash spill, group says

Source: [Los Angeles Times](#), February 6, 2014

Author: David Zucchini

EDEN, N.C. -- An environmental group Thursday challenged Duke Energy's assurances that drinking water from the Dan River in North Carolina and Virginia remained safe despite a massive spill of toxic coal ash that released a deluge of murky gray sludge into the river Sunday.

The Waterkeeper Alliance said its tests of water collected just yards from the spill site here showed dangerous level of toxins, including arsenic, chromium, lead, iron and other heavy metals. Arsenic levels in the samples were 35 times higher than the maximum containment level set by the Environmental Protection Agency for drinking water, the group said.

"The stuff flowing into the river out of that pipe is disturbingly high in toxins and laden with heavy metals," Peter Harrison, staff attorney for the alliance, said as he stood on the riverbank downstream from the spill site late Thursday afternoon. Tests were conducted by a certified lab in North Carolina, he said.

[Read more...](#)

Please 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.

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