

# 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](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.



## Editor's Note

Greetings Greenlist Subscribers:

Since our bi-weekly publication has been well received, we have decided to continue this schedule for the next quarter of 2014. We will be sending a survey out to selected readers late this Spring soliciting feedback on the new schedule and other topics related to Greenlist. Thank you for your continued loyal readership.

Best,  
Mary

## Fire fighters and public health leaders sound alarm on toxic chemicals

[Source: Safer Chemicals Healthy Families blog, March 26, 2014](#)

Author: Lindsay Dahl

When I think of the work fire fighters do every single day, I am humbled. I think of the times I went to the local fire station as a kid to learn about the importance of preventing home fires. I think of the big red fire trucks, safety gear and the bravery these men and women exhibit every single day.

As it turns out, the dangers fire fighters face aren't limited to the dangers of running into a burning home. Peer-reviewed science has shown alarming trends among fire fighter populations including increased cancer rates.

[Read more...](#)

See articles in *Chemosphere*, "[Persistent organic pollutants including polychlorinated and polybrominated dibenzo-p-dioxins and dibenzofurans in firefighters from Northern California](#)", and "[Health consequences of exposure to brominated flame retardants: A systematic review](#)".

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### Organophosphate Ester (OPE) Flame Retardants and Plasticizers in the Open Mediterranean and Black Seas Atmosphere

[Source: \*Environmental Science & Technology\*, February 24, 2014](#)

Authors: Javier Castro-Jiménez, Naiara Berrojalbiz, Mariana Pizarro, and Jordi Dachs

The presence of organophosphate ester (OPE) flame retardants and plasticizers has been confirmed for the first time in the atmosphere over the Mediterranean and Black Seas. Atmospheric aerosol samples were collected during two West-East oceanographic cruises across the Mediterranean and in the southwest Black Sea. This comprehensive assessment of baseline concentrations of aerosol phase OPEs, spatial distribution, and related deposition fluxes reveals levels ranging from 0.4 to 6.0 ng m<sup>-3</sup> for the  $\Sigma_{14}$ OPEs and a lack of significant differences among sub-basins. Levels measured across the Mediterranean Sea and in the Black Sea are in the upper range or higher than those from previous reports for the marine atmosphere, presumably due to proximity to sources. From 13 to 260 tons of OPEs are estimated to be annually loaded to the Mediterranean Sea open waters from the atmosphere. Tris-(1-chloro-2-propyl)phosphate (TCPP) was the most abundant compound over the atmosphere of all the Mediterranean and Black Sea sub-basins, and therefore the chemical reaching surface waters at a higher extent by dry deposition. The atmospheric deposition fluxes of phosphorus due to OPE deposition is a significant fraction of known atmospheric inputs of new organic phosphorus (P), suggesting the relevant role that anthropogenic organic pollutants could play in the P cycle.

[Read more...](#)

### EPA Requires Five New England Companies to Better Manage Hazardous Chemicals to Protect Community

[Source: U.S. Environmental Protection Agency, March 18, 2014](#)

BOSTON -- Five companies in New England that store or use extremely hazardous chemicals are taking action to improve the safety of their operations, following settlements with EPA for violating federal regulations meant to prevent chemical accidents from occurring.

All five companies -- two in Connecticut, two in Massachusetts and one in New Hampshire -- were charged with violating Clean Air Act requirements that protect communities, workers, and emergency responders from accidental releases of extremely hazardous substances, such as chlorine, ammonia, hydrochloric acid, and sulfur dioxide. In addition, one company was charged with violating community right-to-know requirements that give neighbors information about hazardous chemicals in their midst. Another was charged for failing to notify the National Response Center about sodium hypochlorite that spilled out of a ruptured tank that had no secondary containment. This tank was located near the Merrimack River in New Hampshire.

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### Nanomanufacturing: Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health - Highlights of a Forum

[Source: U.S. Government Accountability Office, February 7, 2014](#)

The forum's participants described nanomanufacturing as a future megatrend that will potentially match or surpass the digital revolution's effect on society and the economy. They anticipated further scientific breakthroughs that will fuel new engineering developments; continued movement into the manufacturing sector; and more intense international competition. . . .

Participants outlined three approaches that might be viewed as alternative ways to address these challenges -- or used together: (1) strengthen U.S. innovation by updating current innovation-related

policies and programs, (2) promote U.S. innovation in manufacturing through public-private partnerships, and (3) design a strategy for attaining a holistic vision for U.S. nanomanufacturing. Participants who represented a range of perspectives on environmental, health, and safety (EHS) issues also noted that significant research is needed to understand the risks associated with nanomaterials. As such, multiple participants advocated a collaborative effort, in which nanotechnology stakeholders create an EHS framework, including developing standards for measurement and nomenclature, to help assess and address these risks.

Finally, participants advocated both maintaining R&D support and considering ways to address the challenges outlined above. Justification of further steps might be based on their potential for improving (1) international data on nanotechnology investments, (2) international standard setting for nanomanufacturing and U.S. participation, (3) U.S. ability to maintain or enhance competitiveness, and (4) U.S. and international efforts to address EHS issues.

[Read more...](#)

Access full report [here](#).

### A winning formula: 4 secrets to sustainable chemistry success

[Source: Greenbiz.com, March 24, 2014](#)

Author: Tim Greiner

With personal care and home products increasingly in the spotlight, expectations have grown for more sustainable chemicals and formulations. Target, Walmart and states such as Minnesota, California and Washington are demanding that companies take a new approach to managing chemicals in these products.

To help guide companies managing this added pressure, my consulting firm, Pure Strategies, evaluated how leaders in the formulated products marketplace have constructed their goals, strategies, tools and partnerships. What is at the core of these programs - and what makes them successful?

[Read more...](#)

### Tetrachloroethylene Exposure and Bladder Cancer Risk: A Meta-Analysis of Dry-Cleaning-Worker Studies

[Source: Environmental Health Perspectives, March 21, 2014](#)

Authors: Jelle Vlaanderen, Kurt Straif, Avima Ruder, Aaron Blair, Johnni Hansen, Elsebeth Lynge, Barbara Charbotel, Dana Loomis, Timo Kauppinen, Pentti Kyyronen, Eero Pukkala, Elisabete Weiderpass, and Neela Guha

Background: In 2012, the International Agency for Research on Cancer classified tetrachloroethylene, used in the production of chemicals and the primary solvent used in dry cleaning, as probably carcinogenic to humans based on limited evidence of an increased risk of bladder cancer in dry cleaners.

Objectives: We assessed the epidemiological evidence for the association between exposure to tetrachloroethylene and bladder cancer from published studies estimating occupational exposure to tetrachloroethylene or in workers in the 'dry cleaning' industry. . . .

Conclusions: Our meta-analysis demonstrates an increased risk of bladder cancer in dry cleaners, reported in both cohort and case-control studies, and some evidence for an exposure-response relationship. Although dry cleaners incur mixed exposures, tetrachloroethylene could be responsible for the excess risk of bladder cancer because it is the primary solvent used and it is the only chemical commonly used by dry cleaners that is currently identified as a potential bladder carcinogen. Relatively crude exposure assessment approaches in the studies of 'tetrachloroethylene exposed workers' may have attenuated the relative risks.

[Read more...](#)

Access article [here](#).

### Toxics and Pollution Prevention Evaluation: 2013 Report to the Legislature

This evaluation report of MPCA's toxics and pollution prevention activities is submitted every four years to the Minnesota legislature. It summarizes the Minnesota Pollution Control Agency's activities in these areas.

Access report [here](#).

### Green chemistry method used for production of palladium nanocatalyst

[Source: Nanowerk News, March 5, 2014](#)

Researchers used green chemistry method to produce a nanocatalyst for carbon-carbon bond formation ("Palladium nanoparticles supported on gum arabic as a reusable catalyst for solvent-free Mizoroki-Heck reaction").

The nanocatalyst was produced by coating palladium on a bed of gum Arabic. In addition to high activity and stability, the nanocatalyst can be produced easily through a cost-effective method. Compounds obtained from carbon-carbon bond formation play important role in pharmaceuticals and agricultural industries.

[Read more...](#)

### OECD issues expert meeting report on ecotoxicology and environmental fate of nanomaterials

[Source: Safenano, March 18, 2014](#)

The Organization for Economic Cooperation and Development (OECD) has published a new report entitled 'Ecotoxicology and Environmental Fate of Manufactured Nanomaterials: Test Guidelines', which provides an overview of the discussion and recommendations from an expert meeting on ecotoxicology and environmental fate.

As part of OECD's 'Program on the Safety of Manufactured Nanomaterials', a series of expert meetings were initiated intended to improve the applicability of the OECD Test Guidelines (TG) to nanomaterials. The main objective of the meeting, which took place on 29th-31st January 2013 in Berlin, was to assess the applicability of existing TGs to manufactured nanomaterials, with a view to:

- Identify the needs for updating the OECD TGs related to environmental fate and ecotoxicology, and developing new nano-specific TGs;
- Identify specific needs for developing/updating existing guidance documents, including identifying the need for additional sections for environmental fate and ecotoxicology testing of nanomaterials; and
- Develop separate specific or adapt existing guidance documents for environmental fate and ecotoxicology testing of nanomaterials.

[Read more...](#)

Access Guidelines [here](#).

### Science for Environment Policy: Indoor pollution modelled to inform policy on home insulation

[Source: European Commission DG Environment News Alert Service, March 27, 2014](#)

Author: Alexandra Gens

Increased insulation in homes could reduce ventilation and lead to greater exposure to indoor air pollution, a new study suggests. This, in turn, could affect health. The researchers modelled exposure to fine particles, which indicated that insulating half the homes in Greece by 2020 could lead to a 6% increase in adverse health effects. Sources of indoor air pollution should be reduced as far as possible and, failing that, sufficient airing is key, they recommend.

[Read more...](#)

Read original article in *Atmospheric Environment*, "[Health impacts due to personal exposure to fine particles caused by insulation of residential buildings in Europe](#)".

## The Toxins That Threaten Our Brains

Source: [The Atlantic, March 18, 2014](#)

Author: James Hamblin

Forty-one million IQ points. That's what Dr. David Bellinger determined Americans have collectively forfeited as a result of exposure to lead, mercury, and organophosphate pesticides. In a 2012 paper published by the National Institutes of Health, Bellinger, a professor of neurology at Harvard Medical School, compared intelligence quotients among children whose mothers had been exposed to these neurotoxins while pregnant to those who had not. Bellinger calculates a total loss of 16.9 million IQ points due to exposure to organophosphates, the most common pesticides used in agriculture.

Last month, more research brought concerns about chemical exposure and brain health to a heightened pitch. Philippe Grandjean, Bellinger's Harvard colleague, and Philip Landrigan, dean for global health at Mount Sinai School of Medicine in Manhattan, announced to some controversy in the pages of a prestigious medical journal that a "silent pandemic" of toxins has been damaging the brains of unborn children. The experts named 12 chemicals -- substances found in both the environment and everyday items like furniture and clothing -- that they believed to be causing not just lower IQs but ADHD and autism spectrum disorder. Pesticides were among the toxins they identified.

[Read more...](#)

Also see article in *Chemical & Engineering News*, "[Risk-Assessment Study Fuels Debate Over Toxicity of Industrial Chemicals](#)".

Please send a message to [mary@turi.org](mailto: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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