Greenlist Bulletin

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

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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 if you would like more information on any of the articles listed here, or if this email is not displaying properly.

EPA Seeks Input for Potential Rule Banning or Restricting the Use of N-Methylpyrrolidone (NMP) and Methylene Chloride for Use in Paint and Coating Removal

Source: U.S. Environmental Protection Agency, March 30, 2015

WASHINGTON -- The U.S. Environmental Protection Agency (EPA) is seeking nominations from individuals who represent small businesses, small governments, and small not-for-profit organizations to provide input to a federal panel that will explore risk reduction in the use of NMP and methylene chloride for paint or coating removal.

This panel will focus on the agency's development of a proposed rule to reduce the risk of NMP and methylene chloride in paint and coating removal as appropriate to reduce risks posed for their occupational or consumer use.

Read more...

Also see from U.S. EPA, "EPA Seeks Input for Potential Rule Banning or Restricting the Use of Trichloroethylene (TCE) as a Commercial Degreaser, Spotting Agent in Dry Cleaning, and in Certain Consumer Products".

TURI's Note: Trichloroethylene and methylene chloride are designated as Higher Hazard Substances under TURA. Click links to see TURI's fact sheets.

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New Tool for EDC Research: In Vivo Assay Screens for Estrogenic Effects

Source: *Environmental Health Perspectives*, April 2015
Author: Carrie Arnold

With more than 84,000 chemicals currently listed in the Toxic Substances Control Act inventory and many of them lacking significant toxicologic data, it's no easy task to pick out potential endocrine-disrupting compounds. In this issue of *EHP*, researchers describe a new *in vivo* screen they believe will improve efforts to identify high-priority chemicals for further study.

High-throughput *in vitro* assays used by programs such as the U.S. Environmental Protection Agency's ToxCast™ help with preliminary screening, but they can't identify how a compound may affect the body, says first author Sylvia Hewitt of the National Institute of Environmental Health Sciences. Some *in vitro* screens simply assess whether a chemical binds to the ligand-binding domain of the estrogen receptor, but the ability to bind to the receptor says nothing about the consequences of that binding.

Read more...

Drinking-Water Panel Calls for Stricter Standard on Potential Carcinogen

Source: NJSpotlight.com, April 7, 2015
Author: Jon Hurdle

An advisory panel on Monday urged the New Jersey Department of Environmental Protection to set a tougher standard for the presence of a potentially carcinogenic chemical in drinking water than the level previously recommended by the agency.

A subcommittee of the Drinking Water Quality Institute, a group of scientists, state officials, and water-company executives, recommended that the upper limit for perfluorononanoic acid (PFNA) in drinking water should be no higher than 0.013 parts per billion (ppb) in order to safeguard public health.

That recommended standard is lower than the 0.02 parts per billion that has until now been set by the DEP as a "guidance" level that indicates the standard deemed safe but which does not have regulatory force.

The chemical has been found at the guidance level or above in about 15 private water wells near the West Deptford plant of Solvay Specialty Polymers, a chemical company that previously used PFNA, and which is investigating its presence in local groundwater.

Read more...

See report from panel on health risks of PFNA.

Top Problems With New House Chemical Proposal

Source: Environmental Working Group, April 9, 2015
Author: Scott Faber

Consumers rightly expect that the chemicals used in everyday products are safe. But draft legislation released by three members of the House Committee on Energy and Commerce falls far short of what's needed to evaluate and regulate potentially dangerous chemicals. Simply put, this new draft would fail to ensure that chemicals are safe, fail to set tough deadlines for action, fail to move quickly to review and regulate the most dangerous chemicals, and fail to provide the federal Environmental Protection Agency with adequate resources.

Read more...

Also see from *Chemical Watch*, "More US states attack federal TSCA reform bill".

See from Vermont Public Radio, "Lt. Gov. Casts Vote, Helps Kill Changes To Law Regulating Chemicals".

Bioconcentration and Transfer of the Organophorous Flame Retardant 1,3-Dichloro-2-propyl Phosphate Causes Thyroid Endocrine Disruption and Developmental Neurotoxicity in Zebrafish Larvae

Source: *Environmental Science & Technology*, March 31, 2015
Authors: Qiangwei Wang, Nelson Lok-Shun Lai, Xianfeng Wang, Yongyong Guo, Paul Kwan-Sing Lam, James Chung-Wah Lam, and Bingsheng Zhou

Organophosphate flame retardants are emerging environmental contaminants, although knowledge of their health risks is limited. Here, thyroid hormone homeostasis and neuronal development was studied in the progeny of adult zebrafish exposed to tris(1,3-dichloro-2-propyl) phosphate (TDCPP). ... The mRNA and protein expression of factors associated with neuronal development (e.g., α1-tubulin, myelin basic protein, and synapsin IIa) were significantly downregulated in exposed F1 larvae, as was the level of the neurotransmitters dopamine, serotonin, gamma amino butyric acid, and histamine. Larval locomotion was significantly decreased in exposed fish, but there was no effect on acetylcholinesterase activity. Bioconcentration of TDCPP was observed in F0 fish. TDCPP was also detected in F1 eggs following parental exposure, indicating maternal transfer of this compound. This study uniquely shows that TDCPP can be transferred to the offspring of exposed adults, causing thyroid endocrine disruption and developmental neurotoxicity.

Read more...

Also see, "Canada proposes ban on brominated flame retardants and perfluorochemicals".

TURI's Note: See presentations from our April 9, Continuing Education Conference -- Session B: Flame Retardants.

Cleaning and disinfecting environmental surfaces in health care: Toward an integrated framework for infection and occupational illness prevention

Source: *American Journal of Infection Control*, 2015
Authors: Margaret M. Quinn, ScD, CIH, et al.

The Cleaning and Disinfecting in Healthcare Working Group of the National Institute for Occupational Safety and Health, National Occupational Research Agenda, is a collaboration of infection prevention and occupational health researchers and practitioners with the objective of providing a more integrated approach to effective environmental surface cleaning and disinfection (C&D) while protecting the respiratory health of health care personnel. ...

An integrated framework was developed to guide more comprehensive efforts to minimize harmful C&D exposures without reducing the effectiveness of infection prevention. Gaps in basic knowledge and practice that are barriers to an integrated approach were grouped in 2 broad areas related to the need for improved understanding of the (1) effectiveness of environmental surface C&D to reduce the incidence of infectious diseases and colonization in health care workers and patients and (2) adverse health impacts of C&D on health care workers and patients. Specific needs identified within each area relate to basic knowledge, improved selection and use of products and practices, effective hazard communication and training, and safer alternatives.

Read more...

TURI's Note: See our web page on the project, National Cleaning for Healthier Schools and Infection Control Workgroup.

An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions

Source: Congressional Research Service, April 7, 2015
Authors: Michael Ratner and Mary Tiemann

The United States has seen resurgence in petroleum production, mainly driven by technology improvements -- especially hydraulic fracturing and directional drilling -- developed for natural gas production from shale formations. Application of these technologies enabled natural gas to be economically produced from shale and other unconventional formations and contributed to the United

States becoming the world's largest natural gas producer in 2009. Use of these technologies has also contributed to the rise in U.S. oil production over the last few years. In 2009, annual oil production increased over 2008, the first annual rise since 1991, and has continued to increase each year since. Between January 2008 and May 2014, U.S. monthly crude oil production rose by 3.2 million barrels per day, with about 85% of the increase coming from shale and related tight oil formations in Texas and North Dakota. Other tight oil plays are also being developed, helping raise the prospect of energy independence, especially for North America.

The rapid expansion of tight oil and shale gas extraction using high-volume hydraulic fracturing has raised concerns about its potential environmental and health impacts. These concerns include potential direct impacts to groundwater and surface water quality, water supplies, and air quality. In addition, some have raised concerns about potential long-term and indirect impacts from reliance on fossil fuels and resulting greenhouse gas emissions and influence on broader energy economics. This report focuses mainly on actions related to controlling potential direct impacts.

Read more...

Also see two recent articles regarding chemicals in hydraulic fracturing, from *Trends in Environmental Analytical Chemistry*, "Chemical constituents and analytical approaches for hydraulic fracturing waters" and from *Science of The Total Environment*, "Characterization of hydraulic fracturing flowback water in Colorado: Implications for water treatment".

Best Practice Engineering Control Guidelines to Control Worker Exposure to Respirable Crystalline Silica during Asphalt Pavement Milling

Source: National Institute for Occupational Safety and Health, March 2015

This document represents more than ten years of collaborative research by labor, industry, and government to reduce respirable crystalline silica exposure during asphalt pavement milling in highway construction. The collaborative research began when the Silica/Asphalt Milling Machine Partnership was formed at the 2003 National Asphalt Pavement Association (NAPA) Annual Meeting, and studies on milling machine dust controls began later that year. The Silica/Asphalt Milling Machine Partnership is coordinated by NAPA and includes all U.S. and foreign manufacturers of heavy construction equipment that currently sell pavement-milling machines to the U.S. market. In addition to NAPA and the equipment manufacturers, the Silica/Asphalt Milling Machine Partnership includes numerous paving contractors, the International Union of Operating Engineers, the Laborers International Union of North America, the Association of Equipment Manufacturers, and government organizations including the Occupational Safety and Health Administration (OSHA), the Federal Highway Administration, and the Centers for Disease Control and Prevention's (CDC's) National Institute for Occupational Safety and Health (NIOSH).

Read more...

EU research centre develops nanomaterial toxicity screening

Source: *ChemicalWatch*, April 8, 2015

Researchers working for the European Commission's in-house science service have taken an important step towards establishing a harmonised method for the toxicity screening of nanomaterials.

The scientists -- based at the Joint Research Centre -- have successfully adapted and optimised the colony forming efficiency (CFE) assay to test nanomaterials. This *in vitro* method is used in the cytotoxicity testing of chemicals.

Twelve laboratories from around the world have checked the JRC's assay protocol and found it to be well defined and reliably transferable. Additional benefits include its sensitivity and avoidance of test interferences.

Read more...

Also see March 2015 report from the National Nanotechnology Initiative, "Workshop Report: Stakeholder Perspectives on Perception, Assessment, and Management of the Potential Risks of Nanotechnology (R3 Report)".

Also see in *Challenges (*2013*)*, "Carbon Nanotubes in Electronics: Background and Discussion for Waste-Handling Strategies".

TURI's Note: See presentations from our April 9, Continuing Education Conference -- Session C: TUR in the Emerging Nanomaterials Industry.

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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