

# Greenlist Bulletin

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

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## European RoHS Enforcement Explained

[Source: Printed Circuit Design and Fabrication, May 15, 2013](#)

Author: Mike Buetow

A series of workshops next month on compliance with RoHS and other directives will help US companies looking to break into the European market. . . .

One of the featured presenters, Chris Smith, Technical Manager, Enforcement Authority in the UK, spoke with Mike Buetow by phone on May 7.

[Question]: What's the latest with regard to the RoHS Directive?  
Chris Smith: Well, as you know, the Directive originally went into effect on July 1, 2006. We have just completed the recast process, in which the original directive was reviewed, and specific parts looked at to make it a more modern piece of legislation. The UK Department of Business is the Policy lead. They negotiate authority over the new Directive. We are the enforcement authority for the UK.

[Question]: And what are the main developments?  
CS: Europe is bringing it much closer to the common model for European regulations. Most product-based regulations have a number of administrative processes. The original Directive -- RoHS 1 -- was not closely tied to the framework for this type of legislation. At that time, in 2002, the ties between safety and environment were not that close. Now they are seen as more of a common delivery. . . .

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## Are Local Laws the Key to Ending Childhood Lead Poisoning?

[Source: Journal of Health Politics, Policy, and Law, May 3, 2013](#)

Authors: Katrina S. Korfmacher and Michael L. Hanley

Although lead paint was banned by federal law in 1978, it continues to poison children living in homes built before that time. The lifelong effects of childhood exposure to even small amounts of lead are well established by medical research and include learning and behavior problems,

hypertension, osteoporosis, and kidney disease. Federal and state laws have reduced rates of lead poisoning significantly in the past three decades. However, pockets of high rates of lead poisoning remain, primarily in low-income urban neighborhoods with older housing stock. Recently, several municipalities have passed local lead laws in an attempt to reduce lead hazards in these remaining areas. There has been no systematic attempt to compare the design and effectiveness of these local policies. To address this gap, we conducted comparative case studies of eight innovative lead laws promulgated since 2010. The laws used a wide variety of legal structures and tools, although certain elements were common. The impact of the policies was intertwined with local housing, economic, and legal environments. While data do not yet exist to systematically evaluate the impact on lead poisoning rates, our analysis suggests that local laws hold great promise for reducing lead hazards in children's homes.

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### Court Rules Against Industry Efforts to Hide Health Effects of Styrene

Source: [Earthjustice, May 16, 2013](#)

Washington, D.C. -- The D.C. District Court today dismissed the styrene industry's challenge to the identification of styrene as "reasonably anticipated to be a human carcinogen," ensuring that government can alert the American public to the potential dangers of styrene, a chemical used extensively in the manufacture of plastics, as well as boats, cars, bathtubs, and products made with rubber, such as tires and conveyor belts.

Earthjustice, representing United Steelworkers, Environmental Defense Fund, and an occupational doctor, intervened to help defend the U.S. Department of Health and Human Services' listing of styrene as "reasonably anticipated to be a human carcinogen" in response to a chemical industry lawsuit attempting to force the agency to withdraw the styrene warning.

[Read more...](#)

Read memorandum opinion [here](#).

Read the Styrene Information and Research Center (SIRC) [Statement on Decision in SIRC/Dart vs. HHS](#).

Also read the [section on Styrene](#) from NTP's Twelfth Edition of the Report on Carcinogens (2011).

*TURI's Note:* Styrene was the chemical reported in the largest volume under TURA in 2009. Search for styrene use by community or facility via the [TURADATA site](#).

### Selective isolation of gold facilitated by second-sphere coordination with $\alpha$ -cyclodextrin

Source: [Nature Communications, May 14, 2013](#)

Authors: Zhichang Liu, Marco Frascioni, Juying Lei, Zachary J. Brown, Zhixue Zhu, Dennis Cao, Julien lehl, Gudiang Liu, Albert C. Fahrenbach, Youssry Y. Botros, Omar K. Farha, Joseph T. Hupp, Chad A. Mirkin & J. Fraser Stoddart

Gold recovery using environmentally benign chemistry is imperative from an environmental perspective. Here we report the spontaneous assembly of a one-dimensional supramolecular complex with an extended  $\{[K(OH_2)_6][AuBr_4] (\alpha\text{-cyclodextrin})_2\}_n$  chain superstructure formed during the rapid co-precipitation of  $\alpha$ -cyclodextrin and  $KAuBr_4$  in water. This phase change is selective for this gold salt, even in the presence of other square-planar palladium and platinum complexes. From single-crystal X-ray analyses of six inclusion complexes between  $\alpha$ -,  $\beta$ - and  $\gamma$ -cyclodextrins with  $KAuBr_4$  and  $KAuCl_4$ , we hypothesize that a perfect match in molecular recognition between  $\alpha$ -cyclodextrin and  $[AuBr_4]^-$  leads to a near-axial orientation of the ion with respect to the  $\alpha$ -cyclodextrin channel, which facilitates a highly specific second-sphere coordination involving  $[AuBr_4]^-$  and  $[K(OH_2)_6]^+$  and drives the co-precipitation of the 1:2 adduct. This discovery heralds a green host-guest procedure for gold recovery from gold-bearing raw materials making use of  $\alpha$ -cyclodextrin -- an inexpensive and environmentally benign carbohydrate.

[Read more...](#)

Read press release, ['Making Gold Green: New Non-Toxic Method for Mining Gold'](#), from Northwestern University.

Also read United Nations Environment Programme's resource page on ['Reducing Mercury in](#)

## PCBs and OH-PCBs in Serum from Children and Mothers in Urban and Rural U.S. Communities

Source: *Environmental Science and Technology*, March 1, 2013

Authors: Rachel F. Marek, Peter S. Thorne, Kai Wang, Jeanne DeWall, and Keri C. Hornbuckle

East Chicago, Indiana is a heavily industrialized community bisected by the Indiana Harbor and Ship Canal, which volatilizes 7.5 kg/yr polychlorinated biphenyls (PCBs). In contrast, the rural Columbus Junction, Iowa area has no known current or past PCB industrial sources. Blood from children and their mothers from these communities were collected April 2008 to January 2009 (n = 177). Sera were analyzed for all 209 PCBs and 4 hydroxylated PCBs (OH-PCBs). Sum PCBs ranged from nondetect to 658 ng/g lw (median = 33.5 ng/g lw). Sum OH-PCBs ranged from nondetect to 1.2 ng/g fw (median = 0.07 ng/g fw). These concentrations are similar to those reported in other populations without high dietary PCB intake. Differences between the two communities were subtle. PCBs were detected in more East Chicago mothers and children than Columbus Junction mothers and children, and children from East Chicago were enriched in lower-molecular weight PCBs. East Chicago and Columbus Junction residents had similar levels of total and individual PCBs and OH-PCBs in their blood. Concentrations of parent PCBs correlated with concentrations of OH-PCBs. This is the first temporally and methodologically consistent study to evaluate all 209 PCBs and major metabolites in two generations of people living in urban and rural areas of the United States.

[Read more...](#)

Read press release for the article from the University of Iowa [here](#).

## Association of suicide rates and coal-fired electricity plants by county in North Carolina

Source: *Journal of Mood Disorders*, 2013 3 (1) 8-10

Author: John G. Spangler

Suicide, strongly associated with psychiatric conditions, also correlates with environmental pollution, likely due to quality of life factors which impact mood disorders. This ecological study evaluated the effect of the presence of a coal-fired electricity plant in a county on county suicide rates in North Carolina. Data from the 2000 US Census, 2001-2005 mortality rates from the North Carolina State Center for Health Statistics and the US Environmental Protection Agency were used in multivariable linear regression. Twenty coal plants existed in North Carolina during this study's period. Only about one third of the population of North Carolina lived in urban areas. Seventy four percent of the population was white, and the mean population per county was nearly 48,000. About 13% of the population lived at or below the poverty level. The median household income of counties was approximately \$34,000. County-level suicide rates were higher in North Carolina (12.4/100,000 population) compared to the US population (10.8/100,000). The linear regression model indicated that percent white race, median age of county population and number of coal plants per county explained 25.8% of the variance of county suicide rates. For coal plants, the linear regression model suggests that for each additional coal plant in a given county, there would be an additional 1.96 suicide per 100,000 population. The presence of a coal plant correlated with airborne levels of nickel, mercury, lead, chromium, cadmium, beryllium and arsenic. This is the first study to show that the existence of coal electricity plants is related to population-level suicide rates. Because suicide might be associated with environmental pollution, this study may help inform regulations not only of air pollutants, but also of coal electrical power plant emissions.

Read full article [here](#).

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