

# Greenlist Bulletin

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at the University of Massachusetts Lowell

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## Exposure assessment in nail salons: an indoor air approach

[Source: ISRN Public Health, 2012](#)

Authors: Cora Roelofs and Tuan Do

Due to the complexity of the nail salon work environment, traditional approaches to exposure assessment in this context tend to mischaracterize potential hazards as nuisances.

For this investigation, a workable "indoor air" approach was devised to characterize potential hazards and ventilation in Boston, Massachusetts area nail salons which are primarily owned and staffed by Vietnamese immigrants. A community-university partnership project recruited salons to participate in a short audit which included carbon dioxide measurements and evaluation of other air quality metrics. Twenty-two salons participated.

Seventy-three percent of the salons had spot carbon dioxide measurements in excess of 700 ppm, the level corresponding to a ventilation rate recommended for beauty salons. Fourteen salons (64%) did not have a mechanical ventilation system to provide fresh air and/or exhaust contaminated air.

The lack of adequate ventilation is of significant concern because of the presence of potentially hazardous chemicals in salon products and the common self-report of symptoms among nail technicians. Community and worker health may be improved through adoption of recommended ventilation guidelines and reduction in the hazard potential of nail products.

[Read the article](#)

**EPA rules proposed to limit new uses of potentially harmful chemicals**

[Source: USEPA, March 20, 2012](#)

The U.S. Environmental Protection Agency has proposed that companies be required to report to EPA all new uses, including in domestic or imported products, of five groups of potentially harmful chemicals. Over the years, these chemicals have been used in a range of consumer products and industrial applications, including paints, printing inks, pigments and dyes in textiles, flame retardants in flexible foams, and plasticizers. This action is part of EPA's work to ensure chemical safety in order to protect Americans' health and the environment.

The five chemicals EPA is targeting are polybrominated diphenylethers (PBDEs), benzidine dyes, a short chain chlorinated paraffin, hexabromocyclododecane (HBCD), and phthalate di-n-pentyl phthalate (DnPP). The agency is also proposing additional testing on the health and environmental effects of PBDEs.

"Although a number of these chemicals are no longer manufactured or used in the U.S. they can still be imported in consumer goods or for use in products. Today's proposed actions will ensure that EPA has an opportunity to review new uses of the chemicals, whether they are domestically produced or imported, and if warranted, take action to prohibit or limit the activity before human health or environmental effects can occur," said Jim Jones, EPA's acting assistant administrator for the Office of Chemical Safety and Pollution Prevention. "These actions also signal EPA's ongoing commitment to the American people that the agency is taking significant steps to make sure that the chemicals manufactured and used in this country are safe."

The proposed regulatory actions are known as significant new use rules (SNUR) under the Toxic Substances Control Act (TSCA). The proposed rules would require that anyone who intends to manufacture, import, or process any of the chemicals for an activity that is designated as a significant new use to submit a notification to EPA at least 90 days before beginning the activity. This notification means EPA can evaluate the intended new use and take action to prohibit or limit that activity, if warranted. For PBDEs, the agency will also issue simultaneously a proposed test rule under section 4(a) of TSCA that would require manufacturers or processors to conduct testing on health and environmental effects of PBDEs.

Today's proposed SNURs were identified in action plans the agency issued on these and other chemicals during the last two years. Information on these chemical-specific rules and the agency's action plans, including additional actions under consideration or development, can be found at <http://www.epa.gov/oppt/existingchemicals/>

### Over half of low-cost jewelry ranks high for toxic chemicals, new study says

[Source: Ecology Center, March 13, 2012](#)

New research on toxic chemicals in low-cost children's and adult jewelry found that more than half of the products contain high levels of hazardous chemicals. The Michigan Network for Children's Environmental Health and the Ecology Center released the study March 13 at [www.HealthyStuff.org](http://www.HealthyStuff.org).

Researchers tested for chemicals – including lead, cadmium, arsenic, mercury, bromine and chlorine (PVC) - which have been linked in animal and some human studies to acute allergies and to long-term health impacts such as birth defects, impaired learning, liver toxicity, and cancer.

More than half (57 percent) of the products tested had a "high" level of concern due to the presence of one or more hazardous chemicals detected at high levels. Four products contained over 10 percent cadmium, a known carcinogen. Fifty percent contained lead, with over half of these containing more than 100 ppm of lead in one or more components, exceeding the Consumer Product Safety Commission (CPSC) limit of lead in children's products.

Ninety-nine pieces of jewelry were tested from 14 different retailers, including: Ming 99 City, Burlington Coat Factory, Target, Big Lots, Claire's, Glitter, Forever 21, Walmart, H&M, Meijers, Kohl's, Justice, Icing and Hot Topic. Samples were predominantly collected from retailers in Michigan, along with five other states including Ohio, Massachusetts, Minnesota, New York and Vermont.

### Hormones and endocrine-disrupting chemicals: low-dose effects and nonmonotonic dose

## responses

[Source: Endocrine Reviews, March 14, 2012](#)

Authors: Laura N. Vandenberg, Theo Colborn, Tyrone B. Hayes, Jerrold J. Heindel, David R. Jacobs, Jr., Duk-Hee Lee, Toshi Shioda, Ana M. Soto, Frederick S. vom Saal, Wade V. Welshons, R. Thomas Zoeller, and John Peterson Myers

For decades, studies of endocrine-disrupting chemicals (EDCs) have challenged traditional concepts in toxicology, in particular the dogma of "the dose makes the poison," because EDCs can have effects at low doses that are not predicted by effects at higher doses. Here, we review two major concepts in EDC studies: low dose and nonmonotonicity.

Low-dose effects were defined by the National Toxicology Program as those that occur in the range of human exposures or effects observed at doses below those used for traditional toxicological studies. We review the mechanistic data for low-dose effects and use a weight-of-evidence approach to analyze five examples from the EDC literature. Additionally, we explore nonmonotonic dose-response curves, defined as a nonlinear relationship between dose and effect where the slope of the curve changes sign somewhere within the range of doses examined.

We provide a detailed discussion of the mechanisms responsible for generating these phenomena, plus hundreds of examples from the cell culture, animal, and epidemiology literature. We illustrate that nonmonotonic responses and low-dose effects are remarkably common in studies of natural hormones and EDCs. Whether low doses of EDCs influence certain human disorders is no longer conjecture, because epidemiological studies show that environmental exposures to EDCs are associated with human diseases and disabilities.

We conclude that when nonmonotonic dose-response curves occur, the effects of low doses cannot be predicted by the effects observed at high doses. Thus, fundamental changes in chemical testing and safety determination are needed to protect human health.

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## Beekeepers ask EPA to ban pesticide, protect bees

[Source: Associated Press, March 21, 2012](#)

Author: Gosia Wozniacka

Commercial beekeepers and environmental organizations filed a petition Wednesday, asking federal regulators to suspend use of a pesticide they say harms honeybees.

The group is urging the U.S. Environmental Protection Agency to ban the insecticide clothianidin, one of a class of chemicals that act on the central nervous system of insects.

Over 1.25 million people also submitted comments in partnership with the organizations, calling on EPA to take action.


Beekeepers and some scientists say the chemicals known as neonicotinoids are lethal to bees and weaken their immune systems, making them more susceptible to pathogens. They say it could contribute to colony collapse disorder, in which all the adult honey bees in a colony suddenly disappear or die.

The disorder continues to decimate hives in the U.S. and overseas. Since it was recognized in 2006, the disease has destroyed colonies at a rate of about 30 percent a year, according to the U.S. Department of Agriculture. Before that, losses were about 15 percent a year from a variety of pests and diseases.

Beekeepers annually replace those hives.

In response to calls for the ban on clothianidin and other neonicotinoids, the EPA is currently conducting a re-evaluation of these pesticides. France, Germany and Italy have limited or banned the use of neonicotinoids.

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