Scientists Call for Global Ban on Lead-Based Paints

CINCINNATI, Ohio, September 27, 2007 (ENS) - Consumer paints sold in Nigeria contain dangerously high levels of lead, a multinational team of environmental and occupational health researchers has found, in the first report on consumer paint lead levels in Africa. The scientists are calling for a global ban against lead-based paint to protect people in all countries from the brain and nervous system damage that results from lead exposure.

Increased globalization and outsourcing of manufacturing has increased the likelihood that painted products with unacceptably high levels of lead are being traded across borders - between China and Africa as well as into regulated countries like the United States.

"Nigeria's recent economic recovery may lead to increased activity in the building industry and Nigeria, like other African countries, is increasing trade with Asia, particularly in China," explains Eugenious Adebamowo of the University of Ibadan's Department of Civil Engineering, lead author of the study.

"It's important that international regulations be in place to supplement local efforts to ensure that paints have lower than recommended lead levels, with the ultimate goal of eventually eliminating all lead from paint," she says.

Researchers at the University of Cincinnati in Ohio and University of Ibadan in Nigeria report these findings in the current online edition of the journal "Science of the Total Environment," and will be published in the December print issue of the journal.

Lead is a malleable metal previously used to improve the durability and color luster of paint applied in homes and on industrial structures such as bridges.

Now linked by scientists to impaired intellectual and physical growth in children, lead is also found in some commonly imported consumer products, including candy, folk and traditional medications, ceramic dinnerware and metallic and wooden toys and trinkets.

Researchers say exposure to environmental health hazards is a continuing concern in developing countries, where the United Nations has identified lead as a primary problem.

Previous studies conducted by Jos University Teaching Hospital in Nigeria and
several international collaborators have shown that 70 percent of children, aged six to 35 months, had elevated blood-lead levels and that flaking house paint was a primary determinant of this exposure.

For this study, researchers analyzed lead levels in five colors of paint from each of five brands that are marketed and sold in Ibadan, a city of more than two million people in southwestern Nigeria.

Each paint sample was applied in a single layer to a wood block, left to dry and then removed and analyzed in University of Cincinnati laboratories for lead content.

The tests showed that 96 percent of the consumer paints available in Nigeria contained higher than the recommended levels of lead.

Bright-colored paints - particularly yellow, red, and green - contained the highest levels.

Lead levels in yellow paint were 10 times higher than levels in white paint, red paint lead levels were six times higher and green paint lead levels were three times higher.

"The extent of domestic lead exposure, and its resulting health hazards has been understudied in developing countries, though its importance in cognitive dysfunction related to early exposure is well established in countries such as the United States," says Scott Clark, PhD, professor of environmental health at UC and study collaborator.

Researchers compared the Nigerian paint samples with those sold in some Asian countries, using data obtained by Clark and his collaborators in previous studies.

In the September 2006 issue of the journal "Environmental Research," Clark reported that more than 75 percent of consumer paint tested from countries without lead content controls - including India, Malaysia and China - had levels exceeding U.S. regulations.

Although the median lead levels on Nigerian consumer-based paints did not substantially differ from those in Asian countries, nearly all still exceeded U.S. safety guidelines.

Sandy Roda, a study coauthor who oversaw sample analysis, stressed the international nature of the problem. She said that one paint manufacturer in Nigeria sold high-lead paint in India, but offered a low-lead version in Singapore, a country that enforces a lead standard similar to that of the United States.

"It's very likely that many existing Nigerian homes contain dangerously high levels of lead, so it's absolutely critical from a health standpoint that immediate efforts be made to assess the presence of lead in homes," warns Clark.
"Recent massive recalls of toys from China for lead-based paint content offer further evidence of the public health threat lead-based paint marketing in foreign countries can pose in the United States," he said.

"We've known for years that there are good substitutes for lead in paint," said Clark, "so it's absolutely incomprehensible that paint manufacturers - particularly large companies with plentiful resources - would knowingly distribute a product that can be dangerous to people.

"Some lead-contaminated items intended for use by children, painted playground equipment, for example, are manufactured in countries with limited to zero government regulation on lead in consumer products," he said.

"A consistent, global ban against lead-based paint is urgently needed to protect people not just in the United States, but across the world," said Clark. He is urging American companies to encourage their international collaborators to demand lower lead contents in consumer products - including paint.

"It's not only the ethical thing to do, it's the fiscally responsible choice to prevent billions of dollars in future health costs and property clean-up costs," he said.

"When it comes to public awareness of lead and its detrimental health effects, Nigeria and many other large, developing countries are 25 years behind," says Clement Adebamowo, corresponding author of the study. "Intervention programs could eliminate the risk for exposure and improve the overall health of the Nigerian people."

Training and research programs to increase public and professional awareness of lead exposure are being developed at the University of Ibadan in collaboration with other centers in Nigeria.

Collaborators in this study include Rebecca Clark and Sandy Roda of University of Cincinnati, Krishna Rampal, MD, of the University Kebangsaan Malaysia, Venkatesh Thuppil, PhD, of the National Referral Center for Lead Poisoning Prevention in India, and Chin Chen of the Occupational Safety and Health Center at Singapore Polytechnic.

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