

# Study shows lead-based paint problem isn't isolated to China

**A multinational team of environmental and occupational health researchers has found that consumer paints sold in Nigeria contain dangerously high levels of lead.**

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

Researchers at the University of Cincinnati (UC) and University of Ibadan in Nigeria report these findings in an early Sept. 12 online edition of the journal *Science of the Total Environment*. Researchers believe the study—to be published in the December print issue of the journal—is the first report of new consumer paint lead levels in Africa.

“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 Eugenius Adebamowo, of the University of Ibadan and 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 adds.

For this study, researchers analyzed lead levels in five colors of paint, from each of five brands, marketed and sold in Ibadan, a city of more than 2 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 UC laboratories for lead content.

They found 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. Respectively, lead levels in yellow, red and green paint were 10, six and three times higher when compared with basic white paint

“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. Collectively, these countries represent more than 2.5 billion people.

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 noted 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 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,” adds Clark.

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 scientifically linked 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.

“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.

Previous studies conducted by Jos University Teaching Hospital in Nigeria and several international collaborators have shown that 70 percent of children, aged 6 to 35 months, had elevated blood-lead levels and that flaking house paint was a primary determinant of this exposure.

“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,” adds Clark. “A consistent, global ban against lead-based paint is urgently needed to protect people not just in the United States—but across the world.”

Source: University of Cincinnati

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