

Testing Paint for Lead Content in Sierra Leone. March 2022



Executive Summary

Lead is a toxic metal that has long-lasting harmful health effects in humans, especially in children and pregnant women. Some effects of lead intoxication in children include, damage to the brain and nervous system, stunted growth and development and learning behavior problems. This in turn can lead to lower IQ, underperformance in school and decreased earning potential as an adult, resulting in negative economic impacts.

Potential sources of exposure to lead in Sierra Leone include some solvent based paint (oil paint) and non-environmentally sound recycling of lead acid batteries (vehicle and solar) and electronic waste. A 2020 report by UNICEF and Pure Earth estimates that 2 in 3 children in Sierra Leone have dangerously high blood levels of lead, causing widespread negative health and economic impactsⁱ. Exposure to lead poisoning can be prevented by sensible policies such as the enactment of legislation to regulate lead in paint. As of March 2023, just under half (48%) of all the countries in the world had confirmed to the WHO that they have legally binding controls on the production, import, sale and use of lead paintsⁱⁱ. In Africa, only 10 out of about 50 countries have any form of control on lead paint.

The EPA, with support from the Lead Exposure Elimination Project (LEEP), carried out a baseline survey to determine the presence of lead in paint available for sale in Sierra Leone (imported and locally manufactured). The results of the survey indicate that nearly half of all solvent based paint on the market had dangerously high levels of lead, indicating that lead paint may be an important source of lead poisoning. There is therefore the need for the EPA-SL to work with stakeholders across government, industry and society, to develop regulations to prevent the manufacture, sale, and import of lead-based paints.

How Were the Tests Carried Out?

In March 2022, the Environment Protection Agency Sierra Leone (EPA-SL) and an international NGO, Lead Exposure Elimination Project (LEEP), jointly conducted a paint testing study to determine the lead content of paints available on the Sierra Leone market for sale.

Nineteen (19) cans of solvent-based paint (oil paint) and eight (8) of water-based paint were obtained from stores and paint manufacturing factories in Freetown, Sierra Leone. Previous investigations have shown that Water-based paint is much less likely to contain high levels of lead. About half the samples were from three locally manufactured brands and the other half were from four imported brands.

Protecting our environment for a better future

Lead Poisoning in Sierra Leone - Facts

- ✓ Presence in blood even small amounts of lead damages the brain, stunts growth in children and impacts many organs of the body
- ✓ 2 in 3 children in Sierra Leone have dangerously high blood levels of Lead
- ✓ About half the oil-based paint in Sierra Leone have lead levels in excess of the WHO recommended amounts
- ✓ Oil Paint is an important source of lead poisoning
- ✓ Exposure to lead can be prevented by having sensible lead paint policies and laws



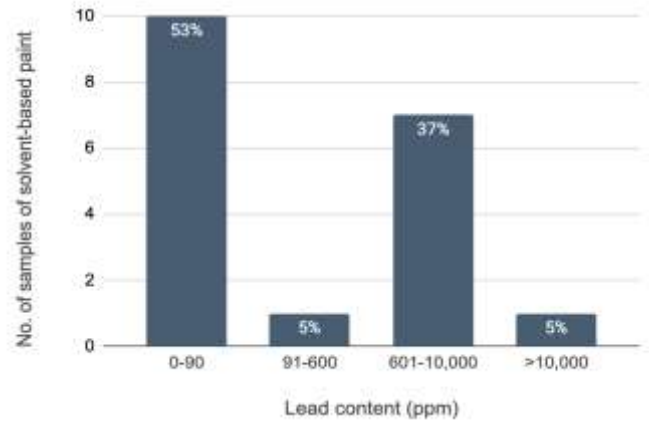
Preparing Paint Samples

The paint samples were prepared for testing by spreading thin layers onto a thin plastic film and allowing them to dry out. The samples were sent to a laboratory at the University of Wisconsin, USA for lead content determination based on dry weight.



What do the Results Show?

Results showed that about half (47%) of the solvent-based paint samples and three of the seven brands (one locally manufactured and two imported) contained dangerously high levels of lead (greater than 90ppm, the maximum level recommended by the WHO). In fact, the lead-based paints generally had lead contents that were many times greater than the recommended limit: 42% of paints had a lead content greater than 600ppm. The highest lead content detected was 32,000ppm, which is over 350 times the recommended limit.



What is the Way Forward?

The Environment Protection Agency Sierra Leone (EPA-SL) will work with all relevant stakeholders in Government, Industry and the Private Sector to draft a Lead in Paint Regulation

About LEEP

LEEP, the Lead Exposure Elimination Project, is an international NGO that works with policymakers and industry to end the availability of lead paints. LEEP's mission is to eliminate childhood lead poisoning, and improve the health, wellbeing, and potential of children worldwide. LEEP is a member of the Global Alliance to Eliminate Lead Paint, a joint initiative led by the UN and WHO.

ⁱ UNICEF, & Pure Earth. (2020). [The Toxic Truth: Children's Exposure to Lead Pollution Undermines a Generation of Future Potential](https://www.unicef.org/media/109361/file/The%20toxic%20truth.pdf).

<https://www.unicef.org/media/109361/file/The%20toxic%20truth.pdf>

ⁱⁱ WHO: Countries with legally binding controls on lead paint. Online at:

<https://www.who.int/data/gho/data/themes/topics/indicator-groups/legally-binding-controls-on-lead-paint>