1. Executive Summary

Background

Exposure to lead is much more harmful to children than adults, and the health effects are generally irreversible and can have a lifelong impact.[1] The younger the child, the more harmful lead can be. The human fetus is the most vulnerable and a pregnant woman can transfer lead that has accumulated in her body to that of her developing child.

Evidence of reduced intelligence caused by childhood exposure to lead has led the World Health Organization to list "lead caused mental retardation" as a recognized disease. WHO also lists it as one of the top ten diseases whose health burden among children is due to modifiable environmental factors.[2]

Lead from paint is recognized as one of the major sources of childhood lead exposure.[3]

Paints contain lead when the paint manufacturer intentionally adds one or more lead compound to the paint for some purpose. The lead compounds most commonly added to paint are lead pigments that give the paint its color. Lead compounds may also be added to paint to serve as drying agents and catalysts in oil-based paints.

Many highly industrial countries have enacted laws, regulations or mandatory standards that prohibit the manufacture, import, sale or use of lead paint for interiors or exteriors of homes, schools and commercial buildings. In recent years, these regulations have become increasingly stringent. The standard adopted by the United States imposes an upper limit of 90 parts per million (ppm) on total lead (dry weight) for house paints and many other paint categories. Many other countries have adopted mandatory limits in the range of 90 to 600 ppm total lead (dry weight).

Good quality, cost-effective alternatives for all the lead compounds that are added to paint are widely available and have been in widespread use for decades. Any paint manufacturer that currently produces decorative paints that use added lead compounds can easily reformulate its paints using these substitutes with very little if any impact on the characteristics of the paints they produce or on their price.

Nevertheless, decorative paints containing lead are still widely sold and used in many developing countries and countries with economies in transition.

As a part of its support for The Global Alliance to Eliminate Lead Paint (GAELP), the United Nations Environment Programme (UNEP) provided funds to the global NGO network, IPEN, to sample and test the lead content of enamel decorative paints on the market in nine regionally and linguistically diverse developing countries and countries with economies in transition where no current data on lead in paint appears to be available. To carry this out, IPEN formed partnerships with NGOs in Argentina, Azerbaijan, Chile, Cote d'Ivoire, Ethiopia, Ghana, Kyrgyzstan, Tunisia, and Uruguay. Samples of enamel decorative paints available for sale on the market in each of these countries were purchased and tested for their total lead content and the results are presented in this report.

1 *Childhood Lead Poisoning, World Health Organization, 2010; p. iii, http://www.who.int/ceh/publications/leadguidance.pdf*
2 *http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf*
3 *Childhood Lead Poisoning,* World Health Organization, 2010, Page 12, list of major sources of children's exposure to lead; http://www.who.int/ceh/publications/leadguidance.pdf

Findings

A total of 234 cans of enamel decorative paints were purchased in retail establishments in the following nine countries: Argentina, Azerbaijan, Chile, Cote d'Ivoire, Ethiopia, Ghana, Kyrgyzstan, Tunisia, and Uruguay. An additional ten cans of anti-corrosive enamel paints were purchased in Cote d'Ivoire. All the paints – the 234 samples of decorative paints and the ten samples of anti-corrosive paints – were tested for their total lead content, dry weight.

Countries selected for testing are regionally and linguistically diverse, do not appear to have publically available data on the lead content of decorative paints for sale on their national market, and had a capable IPEN partner NGO with both the interest and the ability to carry out this project.

Lead Levels in Paints

Most of the paints tested in the countries would not meet regulatory standards established in most highly industrial countries
In five of the nine project countries, 67 percent or more of the paint samples tested had lead content greater than 90 ppm lead – the regulatory limit in the United States. These countries are: Azerbaijan, Cote d'Ivoire, Ethiopia, Kyrgyzstan and Tunisia

In the same five countries, 57 percent or more of the paint samples tested had lead content greater than 600 ppm lead, the regulatory standard in Argentina, Chile and Uruguay.

Paints with extremely high levels of lead are still available in most countries.

In seven of the nine countries, some paint samples tested had lead concentrations greater than 10,000 ppm. Five of these samples were from Argentina; two from Azerbaijan; six from Cote d'Ivoire; ten from Ethiopia; three from Ghana; three from Kyrgyzstan; and eight from Tunisia.

In four of the nine countries – Argentina, Ethiopia, Kyrgyzstan, and Tunisia – one or more of the paints tested had lead levels of 99,100 ppm lead or greater; they were all nearly 10 percent or more lead by weight.

In most countries with lead paint, equivalent paint with no added lead is available.

In six of the seven countries with lead paint – Argentina, Azerbaijan, Cote d'Ivoire, Ghana, Kyrgyzstan and Tunisia, paints with very low lead contents coexists in the market with lead paint.

Lead Concentrations in Paints by Color

White Paints had the lowest lead content The white decorative paints tested had, on average, the lowest lead content, and many contained no lead at the level of detection or only trace quantities of lead. Only one of the 77 white samples tested contained more than 5,500 ppm lead.

Yellow, red and other brightly colored paints had the highest lead content The yellow decorative paints tested had, on average, the highest lead contents. A total of 58 samples of yellow decorative paint were tested. In seven of the nine countries, one or more of the yellow decorative paints tested had lead content greater than 10,000 ppm. In three of the nine countries, at least one of these had lead content greater than 100,000 ppm lead.

Many red paints had high lead contentA total of 69 samples of red decorative paints were tested. In six of the nine countries, one or more of the red decorative paints had lead content greater than 10,000 ppm. None had lead content greater than 100,000 ppm lead but one sample of red decorative contained 99,000 ppm lead.

Green paints also had high lead contentA total of 30 decorative paints in colors other than white, red and yellow were tested.

Eight of these were green. Half of the green decorative paints tested contained more than 10,000 ppm lead; one contained more than 100,000 ppm lead.

Lead Concentrations in Paints by Country

Few countries have established regulatory frameworks, but those that have, generally have lower lead paint levels

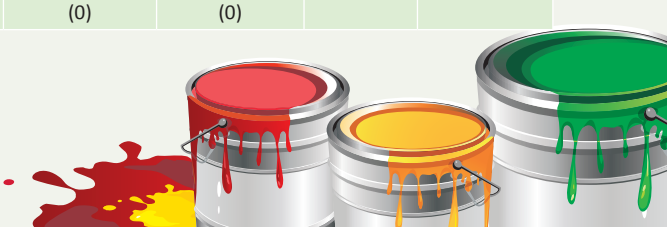
In two of the nine countries, Chile and Uruguay, all the enamel decorative paints tested had low total lead concentrations.

Both Chile and Uruguay have recently enacted national executive decrees that prohibit the production, import, distribution, sale and use of decorative paints with a lead concentration above 600 ppm.

In each of the other seven countries, two or more of the samples of enamel decorative paints tested had lead content greater than 10,000 ppm. In four of these countries, at least one of the decorative paints tested had a lead concentration at or above 99,000 ppm lead. In five of the nine countries, more than half of the decorative paint samples tested had lead content greater than 600 ppm lead, the regulatory limit in many other countries (See Table A below for a summary of total data for new decorative enamel paint in the nine countries of the present study)

Table A. Summary of Total Lead Concentration Data for New Decorative Enamel Paints in Nine Countries

Country	Number of Samples	Number of Brands	Average Lead Concentration ppm	Percent Greater Than 90 ppm (Number)	Percent Greater Than 600 ppm (Number)	Percent Greater Than 10,000 ppm (Number)	Minimum ppm	Maximum ppm
Argentina	30	12	17,000	23% (7)	23% (7)	17% (5)	< 5	130,000
Azerbaijan	30	16	2,600	77% (23)	67% (20)	7% (2)	< 5	20,000
Chile	23	6	52.6	4% (1)	4% (1)	0% (0)	< 5	1,100
Cote d'Ivoire	20	7	8,700	70% (14)	65% (13)	25% (5)	< 5	42,000
Cote d'Ivoire Anti Corrosive Paints	10	5	27,500	80% (8)	80% (8)	10% (1)	< 15	260,000
Ethiopia	23	8	18,500	87% (20)	83% (19)	30% (7)	< 15	130,000
Ghana	18	8	5,030	33% (6)	28% (5)	17% (3)	< 5	42,000
Kyrgyzstan	30	11	7,160	67% (20)	57% (17)	10% (3)	< 5	99,000
Tunisia	30	16	17,900	70% (21)	63% (19)	27% (8)	< 5	170,000
Uruguay	30	10	9.8	0% (0)	0% (0)	0% (0)	< 5	63



Consumer Information

Few if any manufacturers include warnings about hazards associated lead on their labels or other consumer information.

Only 20 out of the 234 sampled paint cans offered information about lead content. Seventeen of these cans were sold in Uruguay. There also appears to be no standard practice with regard to the availability of other types of consumer information. A total of eighty-eight cans (38 percent) included the website address of the paint manufacturer on the label, but no paint can sampled in Chile, Ethiopia or Tunisia carried this information.

Recommendations

Regulatory Frameworks

National efforts to promote the establishment of an appropriate legal and regulatory framework to control the manufacture, import, export, sale and use of lead paints and products coated with lead paints should be encouraged in countries where currently none exists. The evidence of paints with very low lead contents coexisting in the market with equivalent lead paint suggests there should be few economic barriers to the introduction of legal or regulatory controls and the elimination of lead paint.

In setting priorities and timeframes for implementation of a legal and regulatory framework, special attention should be given to the elimination of lead decorative paints and lead paints for those other applications most likely to contribute to childhood lead exposure. In the design of the framework, consideration should be given to the inclusion of provisions for compliance monitoring and enforcement.

Public Awareness

Given the serious impact childhood lead exposure has on both individuals and a nation's future, there is a need for information campaigns in countries where results show the presence of lead paint on the market. These campaigns should inform the public about the hazards of lead exposure, especially in children; the presence of lead decorative paints for sale and use on the national market; lead paint as a significant source of childhood lead exposure; and availability of technically superior and safer alternatives. There is also a need to raise awareness of the need to take special precautions when preparing a previously painted surface for repainting.

Government agencies, NGOs and other organizations of civil society, as well as health professionals and others are encouraged to carry out awareness-raising in the above-mentioned areas. Stakeholders are encouraged to foster voluntary initiatives by paint manufacturers, importers and vendors to phase out the use of lead compounds in their products even before any national legal instrument is adopted or enters into force.

Voluntary Action and Labeling

Paint manufacturers in countries that lack a well-enforced national lead paint control regime are encouraged to eliminate lead compounds from their paint formulations, especially of those paints likely to contribute to lead exposure in children and others.

Paint manufacturers also are encouraged to consider voluntary participation in programs that provide third party paint certification that no lead has been added to their paint, and to label products in ways that help consumers identify paints that do not contain added lead. In addition, paint manufacturers in all countries could provide information on paint can labels warning of the serious risks that may arise from lead dust when preparing a previously painted surface for repainting.

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