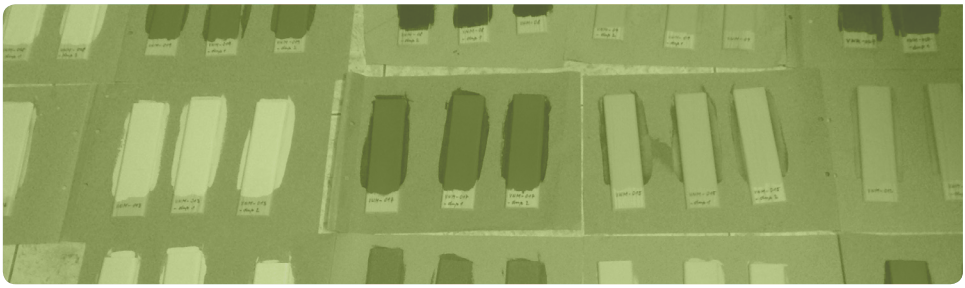

LEAD IN SOLVENT-BASED PAINTS FOR HOME USE IN COLOMBIA

English Summary

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IPEN
a toxics-free future

IPEN is a leading global network of non-governmental organizations (NGOs) working in more than 100 developing countries and countries with economies in transition. IPEN works to establish and implement safe chemicals policies and practices to protect human health and the environment. It does this by building the capacity of its member organizations to implement on-the-ground activities, learn from each other's work, and work at the international level to set priorities and achieve new policies. Its mission is a toxics-free future for all.

IPEN has been engaged in the SAICM process since 2003, and its global network helped to develop the SAICM international policy framework. At its founding, in 1998, IPEN focused on advancing the development and implementation of the Stockholm Convention on persistent organic pollutants (POPs). Today, its mission also includes promoting safe chemicals management through the SAICM process (where it holds the public interest organization seat on the SAICM Bureau), halting the spread of toxic metals, and building a movement for a toxics-free future.

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PREFACE AND ACKNOWLEDGEMENTS

In 2007 and 2008, NGOs in the IPEN network collected and analyzed decorative (home use) paints on the market in 11 developing countries, and in countries with economies in transition. The results were startling. In every one of these countries, many of the paints contained dangerously high lead levels. In response, IPEN launched its Global Lead Paint Elimination Campaign, which seeks to eliminate lead paint by 2020 and raise widespread awareness among business entrepreneurs and consumers about the adverse human health impacts of lead paint, particularly on the health of children. Since then, IPEN-affiliated NGOs and others have sampled and analyzed paints on the market in approximately 40 low- and middle-income countries.

These and other studies suggest that lead paints for home use continue to be widely produced, sold, and used in developing countries even though most highly industrial countries banned lead paints for household use more than 40 years ago.

This report presents new data on the total lead content of solvent-based paints for home use available on the market in Colombia. It also presents background information on why the use of lead paint is a source of serious concern, especially to children's health; a review of national policy frameworks that are in place to ban or restrict the manufacture, import, export, distribution, sale and use of lead paint; and a strong justification to adopt and enforce further regulatory controls in Colombia. Finally, it proposes action steps by different stakeholders to protect children and others from lead paint.

We take this opportunity to thank all those who were instrumental in compiling and shaping this paint study. This study was conducted in Colombia by the engineer Placido Silva D., with the participation of Sara Lorena Roncancio M. and Julián Casasbuenas G. of COLNODO / SUSTAINABLE DEVELOPMENT NETWORK. We would also like to thank Fernando Bejaranos G. from the Center of Analysis and Action in Toxics and their Alternatives (CAATA); Sara Brosché, Manny Calonzo, Valerie Denney, Jeiel Guarino, and Jack Weinberg from IPEN; Tatiana Biresova, Jindřich Petrlík, and Jitka Straková from Arnika; as well as to the staff of Forensic Analytical Laboratories, Inc. USA.

This study was undertaken as part of IPEN's Global Lead Paint Elimination Campaign. It was conducted in Colombia by COLNODO / SUSTAINABLE DEVELOPMENT NETWORK in partnership with IPEN, and funded by the New York Community Trust (NYCT) and the Swedish Government.

While this study was undertaken with funding assistance from the New York Community Trust and the Swedish Government, responsibility for the content lies entirely with IPEN and COLNODO. The New York Community Trust and the Swedish Government do not necessarily share the expressed views and interpretations.

IPEN is an international NGO network of health and environmental organizations from all regions of the world of which COLNODO is a member. IPEN is a leading global organization working to establish and implement safe chemicals policies and practices to protect human health and the environment. Its mission is a toxics-free future for all. IPEN helps build the capacity of its member organizations to implement on-the-ground activities, learn from each other's work, and work at the international level to set priorities and achieve new policies.

COLNODO facilitates communications, inter-exchange of information and experiences between Colombian organizations at the local, national and international levels through the internet. To develop its objective, COLNODO has prioritized, through its strategic programs, issues such as human rights, improving the status of women, globalization, democracy and civic participation, sustainable development, democratization of knowledge, digital inclusion, and strategic use of information technology and communication (ICT) for development. COLNODO is the operator of the Network of Sustainable Development in Colombia (www.rds.org.co), and is a member of the Colombian Network of Environmental Education (www.redcolombianafa.org).

BACKGROUND

Lead is a toxic metal that causes adverse effects on both human health and the environment. While lead exposure is also harmful to adults, lead exposure harms children at much lower levels, and the health effects are generally irreversible and can have a lifelong impact.

The younger the child, the more harmful lead can be, and children with nutritional deficiencies absorb ingested lead at an increased rate. The human fetus is the most vulnerable, and a pregnant woman can transfer lead that has accumulated in her body to her developing child.[1] Lead is also transferred through breast milk when lead is present in a nursing mother.[2]

Evidence of reduced intelligence caused by childhood exposure to lead has led the World Health Organization (WHO) 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.

Lead paint is a major source of childhood lead exposure. The term lead paint is used in this report to describe any paint to which one or more lead compounds have been added. The cut-off concentration for lead paint used in the report is 90 parts per million (ppm, dry weight of paint), the strictest legal limit enacted in the world today.

A recent study investigating the economic impact of childhood lead exposure on national economies in all low- and middle-income countries estimated a total cumulative cost burden of $977 billion international dollars[3] per year. In Colombia, the economic loss is estimated to be 8.91 billion international dollars, or 1.88 percent of Gross Domestic Product (GDP).[4]

1 Bellinger, D.C., *Very low lead exposures and children's neurodevelopment*. Current Opinion in Pediatrics, 2008. 20(2): p. 172-177.

2 Bjorklund, K.L., et al., *Metals and trace element concentrations in breast milk of first time healthy mothers: a biological monitoring study*. Environmental Health, 2012. 11.

3 An International dollar is a currency unit used by economists and international organizations to compare the values of different currencies. It adjusts the value of the U.S. dollar to reflect currency exchange rates, purchasing power parity [PPP], and average commodity prices within each country. According to the World Bank, "An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States." The international dollar values in this report were calculated from a World Bank table that lists GDP per capita by country based on purchasing power parity and expressed in international dollars.

4 http://www.med.nyu.edu/pediatrics/research/environmentalpediatrics/leadexposure

Most highly industrial countries adopted laws or regulations to control the lead content of decorative paints—the paints used on the interiors and exteriors of homes, schools, and other child-occupied facilities—beginning in the 1970s and 1980s. Colombia does not have any regulation limiting the manufacture, sale, import or use of lead paint.

From August to September 2016, COLNODO purchased a total of 39 cans of solvent-based paint intended for home use from stores in Bogotá and Neiva, Colombia. The paints represented 11 different brands from 11 different manufacturers. All paints were analyzed by an accredited laboratory in the United States of America for their total lead content, based on dry weight of the paint. The paint samples were analyzed using method EPA3050B/7000B, i.e., through acid digestion of the samples, followed by Flame Atomic Absorption Spectrometry, as recognized by the WHO as appropriate for the purpose.[5] The laboratory participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program operated by the American Industrial Hygiene Association (AIHA), assuring the reliability of the analytical results.

5 World Health Organization, *Brief guide to analytical methods for measuring lead in paint*. 2011, WHO Library Cataloguing-in-Publication Data.

RESULTS

25 out of 39 analyzed solvent-based paints for home use [64 percent of paints] were lead paints, i.e., they contained a total lead concentration above 600 parts per million (ppm, dry weight of paint). This is also the regulatory limit for lead in decorative paint in decorative paint in South Africa, Brazil and Sri Lanka.

23 out of 39 analyzed solvent-based paints for home use [59 percent of paints] contained dangerously high lead concentrations above 10,000 ppm. The highest total lead concentration detected was 250,000 ppm in an enamel orange paint sold for domestic use.

On the other hand, 10 out of 39 paints [26 percent of paints] contained lead concentrations below 90 ppm, suggesting that the technology exists in Colombia to produce paint without lead ingredients.

9 out of 11 analyzed brands [82 percent of paint brands] sold at least one lead paint, i.e., a paint with total lead concentration above 600 ppm. 9 out of 11 analyzed brands [82 percent of paint brands] sold at least one lead paint with dangerously high lead concentrations above 10,000 ppm.

Paints containing lead above 600 ppm were manufactured in Colombia. The highest lead concentration detected was 250,000 ppm in an orange, Tito Pabon Enamel Paint sold for home use. This paint was manufactured in Colombia.

Orange, green, yellow and red paints most frequently contained dangerously high lead concentrations above 10,000 ppm. Of 6 orange paints, 5 [83 percent of orange paints] contained lead levels above 10,000 ppm; 7 out of 11 green paints [64 percent of green paints] contained lead levels above 10,000 ppm; 5 out of 9 yellow paints [56 percent of yellow paints] contained lead levels above 10,000 ppm; and 6 out of 12 red paints [50 percent of red paints] contained lead levels above 10,000 ppm.

The ten solvent-based paints with the highest amounts of lead are summarized in Table 1.

TABLE 1. TOP 10 SOLVENT-BASED PAINTS WITH THE HIGHEST LEAD CONTENT.

Rank	Sample No.	Brand	Country of Manufacture	Color	Lead Content (ppm)
1	COL-05	Tito Pabon Paint	Colombia	orange	250,000
2	COL-04	Tito Pabon Paint	Colombia	yellow	190,000
3	COL-21	1acabados	Colombia	yellow	110,000
4	COL-07	Durocolor Paint	Colombia	yellow	94,000
5	COL-12	Acabados 3P SAS Paint	Colombia	orange	80,000
6	COL-06	Tito Pabon Paint	Colombia	red	68,000
7	COL-08	Durocolor Paint	Colombia	green	39,000
8	COL-09	Durocolor Paint	Colombia	red	38,000
9	COL-01	Multitonos Paint	Colombia	green	37,000
10	COL-10	Acabados 3P SAS Paint	Colombia	red	36,000

In general, paint can labels did not carry meaningful information about lead content or the hazards of lead paint. Labels on only 4 out of 39 paints [10 percent of paints] carried information indicating the paints were free of lead. However, two of these paints contained more than 90 ppm lead despite advertisement or claim on its product label that they are "lead free." No manufacturer presented information on paint ingredients in the same way. Most paints provided lot numbers and manufacturing dates were provided on 20 out of 39 paint can labels [51 percent of paints]. Most paints analyzed did not contain warning symbols indicating that the products are flammable, nor did they provide warnings of the effects of lead paint dust on children and pregnant women.

CONCLUSIONS

This study demonstrates that solvent-based paints for home use with high concentrations of lead are widely available in Colombia since the paints included in this study were from brands commonly sold in retail stores all over Colombia. However, the fact that 10 out of 39 paints [26 percent of paints] contained lead concentrations below 90 ppm indicates that the technology to produce paints without added lead exists in Colombia.

RECOMMENDATIONS

To address the problem of lead in paint, COLNODO / SUSTAINABLE DEVELOPMENT NETWORK and IPEN propose the following recommendations:

Government and Government Agencies

Establishing regulation limiting the maximum lead content in paints in Colombia should be given priority by the following agencies: the Ministry of Environment and Sustainable Development; the Ministry of Health and Social Protection; the Ministry of Labour; and the Ministry of Commerce, Industry and Tourism. The regulation should reflect international standards and require paint manufacturers and importers in Colombia to include on their labels information on the content of lead and other heavy metals in paints, including warning on possible lead dust hazards when disturbing painted surfaces.

Paint Industry

The paint industry should comply with Corporate Social Responsibility and perform actions to improve production systems and to protect health and the environment of the Colombians. The National Association of Entrepreneurs of Colombia (ANDI) should start programs to avoid the production of paints with lead and help establish a uniform labeling system. Paint companies that still produce lead paints should expeditiously stop the use of leaded paint ingredients in paint formulations. Paint companies that have shifted to non-lead paint production should get their products certified through independent, third party verification procedures to increase the customer's ability to choose paints with no added lead.

Individual, Household and Institutional Consumers

Paint consumers should demand paints with no added lead from paint manufacturers and retailers, as well as full disclosure of a paint product's lead content. Household and institutional consumers should ask for, consciously buy, and apply only paints with no added lead in places frequently used by children such as homes, schools, day care centers, parks and playgrounds.

Organizations and Professional Groups

Public health groups, consumer organizations and other concerned entities should support the elimination of lead paint, and conduct activities to inform and protect children from lead exposure through lead paint, lead in dust and soil, and other sources of lead.

All Stakeholders

All stakeholders should come together and unite in promoting a strong policy that will eliminate lead paint in Colombia.

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