UNITED NATIONS

UNEP(DTIE Chemicals) **/WHO**(PHE) /GAELP/INF/2/Add.1

Original: English Date: 8 September 2014

United Nations Environment Programme

World Health Organization

Third meeting of the Global Alliance to Eliminate Lead Paint
New Delhi, 22- 24 September 2014

Information about the progress in relation to Global Alliance to Eliminate Lead Paint Business Plan priority actions and targets

Addendum

Note by the Secretariat

This document includes the submissions from different GAELP contributors in relation to their progress in relation to the on GAELP Business Plan Priority actions and targets. The document consists of different brochures, flyers, national reports, additional information, etc received by the GAELP Secretariat.

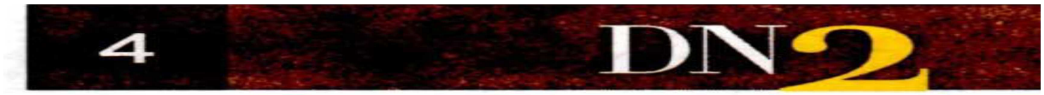
Information about the progress in relation to Global Alliance to Eliminate Lead Paint Business Plan priority actions and targets

Addendum

Contents

Annex

Kenya´s Submission



IN THE NEWS

Week of action to focus on lead risks

The International Week of Action on Prevention of Lead Poisoning is fast approaching. Running from October 20 to 26 this year, the drive is aimed at raising awareness on some of the little known facts about lead poisoning, specifically from lead-based paints.

The joint effort by Global Alliance to Eliminate Lead Paint (GAELP), United Nations Environment Programme (UNEP), and World Health Organisation (WHO) will highlight efforts in preventing childhood lead poisoning and occupational exposure to the heavy metal, and will urge further action to eliminate lead-based paints.

Lead, a silvery-grey metal, is mined from the earth and is composed of compounds that are of extreme physical and chemical importance. It has no known biological function yet, one way or the other, still gets ingested by human beings, leading to poisoning.

Such dangerous exposure occurs in industries that use the metal, including battery manufacturing and recycling, and any contact with leaded paint, fuel, enamels and toys.

Special attention is however drawn to leaded paints which, despite the health concerns raised, are still in wide circulation in the country.

Lead-based paints are used for interior and exterior décor in most houses, social and communal buildings such as hospitals, schools, and churches, and in playground equipment.

REPORT ON PREVENTION OF LEAD POISONING: THE INTERNATIONAL WEEK OF ACTION 20TH – 26TH OCTOBER 2013
Awareness Creation Workshop, KIRDI, Nairobi, Kenya on 23rd October 2013

INTRODUCTION

The International Week of Action on Prevention of Lead Poisoning (October 20th - 26th 2013) is intended to address the lack of awareness about lead poisoning emanating from lead paints. The event is a joint voluntary collaborative plan of the Global Alliance to Eliminate Lead Paint (GAELP) undertaken by United Nations Environment Programme (UNEP) and the World Health Organization (WHO). It focuses and catalyzes the efforts of a diverse range of stakeholders such as Governments, Clinical and Public Health Professionals, Researchers among others to achieve international goals to prevent children's exposure to lead and minimize occupational exposures to lead paint. The GAELP therefore aims at raising awareness about lead poisoning by highlighting countries' and partners' efforts in preventing childhood lead poisoning and urge further action to eliminate lead paints.

The International week of action to prevent lead poisoning culminated in a one day Awareness Creation workshop that was held on the 23rd of October 2013 at the Kenya Industrial Research and Development Institute (KIRDI), Nairobi. The event co-ordinator was Dr. Faridah H. Were who had carried out research work on occupational exposure to lead from diverse industrial plants.

WELCOME REMARKS.

Dr. Moturi, KIRDI Director gave welcome remarks to all who were present. He was pleased to host the event since its deliberations had far reaching impact of creating awareness and providing interventions in addressing the problems associated with lead exposure. He told stakeholders that the 2013 theme was targeting mainly lead in paint although there are other sources of lead that have several applications in the cosmetics, electronics, soldering and recycling of lead acid battery industry. Furthermore, there are many serious health problems linked to lead exposure such as the neurological that may lead to coma, convulsions and deaths. Lead also impairs the intellectual ability of children. He noted that 143,000 people die each year due lead poisoning and most of those affected are children and 99% of whom are in developing countries. He therefore welcomed efforts towards lead free paint.

FIRST PRESENTATION: DEVELOPMENT AND EVOLUTION OF THE PAINT INDUSTRY.

The presenter from paint company, Mr. Kamlesh Shah discussed briefly the historical perspective of paint. He informed stakeholders that the composition of paint is varied but mainly made of four components namely pigments, binders, carriers and additives. He said pigments contribute to colour, toughness, texture among other features and when lead is added to the pigments, the results are bright and attractive colours. He told participants that in Kenya, there are 3 categories of paints namely: premium (first quality), trade (second quality) and economy (third quality) grades. With premium grade containing the lowest levels of lead, whereas economy having the highest levels of lead. However, there are no regulations and policy framework in controlling the paint industry in Kenya. Its mostly professional fraternities that have been pushing for the evolution in the paint industry and as a result, some

companies are voluntary moving away from lead pigment range. He cited several challenges towards the migration to lead free paint which include:-

1. Lack of government subsidies or incentives
2. Lack of legislations/regulations/policies
3. High costs of manufacturing paints from organic compounds
4. Low economic level of the general public that forms the bulky of the market for the paint industry
5. Lack of awareness among the general public

SECOND PRESENTATION: LEAD EXPOSURE AND RELATED ADVERSE HEALTH

Dr. Faridah Were, the coordinator of the event presented a power point presentation on lead exposure and related health effects with reference to the research that she had conducted in diverse industrial plants. She emphasized that lead emanating from paint presented more serious human health effects and environmental contamination than other sources of lead due to wider applications. Lead from paint gets into the environment as a result of the following activities: formulation of paint using leaded raw materials, flaking or peeling of lead paint surfaces, renovations, and demolitions, dumping of lead paint waste containers into the drainage system, recycling of lead painted containers and welding lead painted metals. She informed participants that it is difficult to diagnosis lead poisoning cases, and symptoms of lead poisoning are not apparent. She stated that the most vulnerable groups are pregnant women and children under 6 years of age who exhibit speech delay, hyperactivity, learning disabilities and behavioural disorders among other symptoms.

RECOMMENDATION:

Dr. Faridah Were recommended the following:-

1. Policy and decision makers should have long-term solution in eliminating lead exposure through legislations/regulations/policies.
2. Enforcement of regulations/policies on lead paint
3. The general public should be sensitized about the adverse health effects associated with lead in paint.

THIRD PRESENTATION: DIAGNOSTIC CLINICAL – TRENDS AND PREVALENCE OF LEAD POISONING IN KENYA

Dr. Tom Menge, from Kenyatta National Hospital gave statistical trends of poisoning in Kenya which showed that cases of poisoning are on the increase in the country. Major cases that have been reported include: afflatoxins, pesticides, lead and illicit brew. He said although lead poisoning is prevalent in urban areas due to construction and dumping activities the diagnostic mechanism is relatively low in the country

RECOMMENDATION:

Dr. Menge recommended the following:-

1. Enactment and enforcement of strong legislations.
2. Removal of laxity in government organizations and individuals.
3. Awareness creation on lead poisoning.

FIRST PLENARY SESSION

After the presentations, participants were interested in knowing the following:-

1. What is the duration of wet paint on the surface before it flakes
2. How long does anti-bacterial property in paint last?
3. Are there physical signs to differentiate between leaded and unleaded paints?
4. Where information on lead poisoning can be obtained.
5. Whether labeling of paints to show lead content can be done.
6. Which brand of paint is long lasting
7. Which forms or compound of lead are poisonous
8. Which levels of exposure to lead are harmful
9. In Kenya we do not manufacturer lead pigments why should the manufacturers of these pigments be held responsible

THE PRESENTERS GAVE THE FOLLOWING ANSWERS:-

1. Drying and flaking depends on the prevailing weather conditions and composition of the paint.
2. Anti-bacterial property are found in the paint film hence durability of this property depends on the nature of the paint
3. It is difficult to physically differentiate between leaded paint and unleaded since the concentration of lead may vary
4. Information on lead poisoning can be obtained from KIRDI and GAELP Websites
5. Labeling of paints to show lead content is possible although currently there is no regulations in Kenya to enforce it
6. Premium brand is a long lasting paint
7. All forms of lead, including elemental or compounds, are hazardous and the higher the concentrations of lead content the higher the toxicity.
8. However, it should be noted that there is no concentration that is safe as lead bio-accumulate in the body system. It also persistent in the environment.

FOURTH PRESENTATION: TRENDS IN TECHNOLOGIES FOR PRODUCTION AND APPLICATION OF PAINTS

The presenter from paint company, Mr. Santosh Pawar began by discussing the type of paints used in the olden days that included oil based paints, casein/milk paints, distempers and lime/white wash. However, with the introduction of some regulations, people are voluntary moving away from organic based paints to water based paints. He informed the participants that paint formulation and technology has improved over time due to sustainability and cost efficiency issues. Nonmaterial's are being used in paints to avoid corrosion, scratch and to enhance mechanical and optical properties of colour. He stressed that lead pigments are used because they are highly opaque, mesmeric, has high hiding power and are relatively inexpensive.

Paints are classified according to the proposed functions as follows:

1. Architectural coating
2. Industrial coating
3. Automotive paints
4. OEM paints.
5. Special purpose coating.

RECOMMENDATION:

The presenter recommended the following:-

1. Incorporation of lead free inorganic pigments
2. Use of opaque types of organic pigments
3. Use of clean basic organic pigments

FIFTH PRESENTATION: LEAD IN ENAMEL DECORATIVE PAINTS – NATIONAL PAINT TESTING RESULTS

UNEP, Mr. Juan Fernando said it was established that 10 – 12% of lead is used in paints and red, orange and yellow have more lead pigments concentration while white have the least. The most affected were therefore workers, children and pregnant women. The lead enamel-decorative paints National testing report is available and can be accessed on the UNEP website. He also informed participants that UNEP was working on some regulations to be adopted globally.

RECOMMENDATIONS:

The following recommendations were made:-

1. Awareness creation on the problems associate with lead.
2. Voluntary labeling of paints in terms of concentration of lead

SECOND PLENARY SESSION

After the above presentations, participants wanted to know the following:-

1. What happens to effluent in paint manufacturing industries before it's released to the environment.
2. Whether the paint company has training programs for the workers and painters
3. How workers in the automotive industry can also be assisted in terms of exposure

The presenters gave the following answers:-

1. Little effluent gets to the environment as there is recycling and reusing in the industry although recycling should be carried in the environmentally friendly way.
2. Some efforts are being put forward on the training program of workers although panning and allocation of resources is necessary
3. Workers in the automotive industry can be assisted through awareness creation program and technical support.

SEVENTH PRESENTATION; POLICY AND REGULATORY FRAMEWORK FOR LEAD IN KENYA

Dr. Issak Elmi, National Environment Management Authority (NEMA): gave a history of environmental management which began in the Scandinavian countries as village organizations and metamorphosised into community based organizations, non-governmental organizations and, later, political parties. Today, there are national and global organizations championing environmental management. He informed participants that NEMA has developed air quality and chemical regulations which are waiting signing by the cabinet secretary in charge of environment. This will assist in regulating lead and other heavy metals in the country.

RECOMMENDATIONS:

Dr. Elmi recommended the following:-

1. Intensive awareness promotions on lead across all the 47 counties
2. Targeting of the media as a means of awareness creation
3. All proposed developments to undergo environmental impact assessment with emphasis on the use of lead free paint

EIGHTH PRESENTATION: AIRBORNE LEAD CONCENTRATIONS IN URBAN AREAS IN KENYA

Dr. G.A Wafula, from the University of Nairobi informed participants that airborne lead concentrations in urban areas are above the WHO and NEMA recommended guidelines. The concentrations were higher in highways and industrial areas. It is worth noting that leaded gasoline was phased out in Kenya and hence the highway should have relatively low concentrations of airborne lead. He therefore attributed the high concentrations of lead in urban areas and highway to many activities such as constructions and demolitions of building, illegal dumping and burning of lead containing wastes.

RECOMMENDATIONS

Dr. Wafula recommended the following:-

1. Avoid illegal dumping and burning of waste.
2. Minimize industrial exposures by manufacturing lead free paint
3. Application of lead free paints

THIRD PLENARY SESSION

After the above presentations, participants wanted to know the following:-

WAY FORWARD

The following were agreed upon:-

1. Manufacturers of leaded pigments should provide alternatives that is affordable and effective
2. Paint manufacturers to start migrating from lead paint to lead free paints and label their paint products
3. Intensification of awareness on lead poisoning to the general public.
4. Formulation and enforcement of regulations on paints.
5. Every individual to take responsibility in environmental management of lead paint
6. Avoidance of cheap paints as they are expensive in the long run
7. KIRDI to take a leading role in spearheading environmental research and related workshops in the country

VOTE OF THANKS

The master of ceremony, Mr. Nyaga, thanked the Director, Event Coordinator, Dr Faridah H. Were, Sponsors, Partners, Facilitators, Stakeholders and all participants for making the event a success.

UNIDO`s Submission

Dear Staff of the GAELP Secretariat:

UNIDO thanks the Secretariat of the Global Alliance to Eliminate Lead Paint (GAELP) for its recognition of UNIDO as a new contributor and is pleased to provide information about its progress related to the goals of the Alliance.

The organization is working toward developing projects that will address, among other goals, select "additional actions for 2014 – 2020" as stated in Annex I, paragraph 16 of the GAELP Business Plan, with a particular focus on the following:

(a) Promoting the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;
(b) Promoting third-party certification of no added lead in new paint products, especially in countries which may face challenges with the comprehensive enforcement of national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints; and
(c) Identifying the information that small and medium-size paint manufacturers may need to cost-effectively reformulate their paint products to eliminate the use of added lead compounds, and establishing mechanisms to provide them with such information as needed.

UNIDO plans to focus on China and select countries to be determined in South America. The projects are in the development stage and UNIDO welcomes information exchange through the GAELP to maximize synergies and lessons learned between projects being conducted by GAELP contributors.

Please do not hesitate to contact Igor Volodin or Heinz Leuenberger should you have any questions about the above.

Sincerely yours,

Angela Bandemehr
Expert on Mission to UNIDO

On behalf of

Igor Volodin
Unit Chief, Water Management Unit
Environmental Management Branch
Programme Development and Technical Cooperation Division
UNIDO

CEPHED`s Submission

NATIONAL REPORT

LEAD IN NEPAL'S NEW ENAMEL HOUSEHOLD PAINTS

CEPHED

Centre of Public Health and Environmental Development

October 2013

EUROPEAN UNION

IPEN

a toxics-free future

Citation: National Report

Lead in Nepal's new enamel household paints

Center for Public Health and Environmental Development (CEPHED), October 2013

Published Date: October 2013

Center for Public Health and Environmental Development (CEPHED)
Imadol-5, Lalitpur, Kathmandu, Nepal
Phone/Fax: 977-01-5201786
Email: cephed04@yahoo.com

Research Study Team:

Ram Charitra Sah, Executive Director, CEPHED, Nepal

Er. Manish Thapa, Policy and Communication Officer, CEPHED, Nepal

Sara Brosche, PhD, IPEN Project Manager, SWITCH AISA, Lead Paint Elimination Project, sarabrosche@ipen.org

Dr. Scott Clark, Professor Emeritus in Environmental Health, in University of Cincinnati, United States. USA, CLARKCS@ucmail.uc.edu

Valerie Denney, USA,

Disclaimer: CEPHED would like to acknowledge the financial and technical support of the IPEN Lead Paint Elimination Project to complete this important study under European Union funded SWITCH ASIA, Lead Paint Elimination Project and Swedish Society for Nature Conservation (SSNC), Sweden for printing this report.

The Opinions expressed herein are those of publishing organization and may not necessarily reflect the official views of the European Union and Swedish Society for Nature Conservation (SSNC), Sweden.

Lead in Nepalese Household Paint

Foreword

This report presents new data on the lead content of new enamel decorative paints for sale on the Nepalese market. This is the third time Centre of Public Health and Environmental Development (CEPHED) has coordinated studies in Nepal where paints are analyzed to establish their lead content. The first study was conducted in year 2010 and included 13 enamel paints purchased in Nepal; the second was conducted in 2011 and included 12 enamel paints from multinational brands sold in Nepal.

The first study in 2010 was the starting point for a campaign for lead free paints in Nepal with the broad objective to phase out the manufacture and sale of paints containing lead, in order to prevent Nepalese children's exposure to lead via paints containing lead as well as to minimize occupational exposure to lead in paint. Key activities include spreading awareness among relevant stakeholders and initiating dialogue with policy makers on chemical safety.

The study in 2011 was carried out to determine whether lead levels vary in identical brands of enamel decorative paints available in in different countries in South Asia. Therefore, the Nepalese results were compared with the same paints in Bangladesh and India. It was also carried out to assess whether or not manufacturers had taken steps to phase-out lead in their paints after the 2010 results were made public.

In this report, we present findings from this most recent study analyzing enamel decorative paints to determine their lead content, and we compare these results with the results from the 2010 and 2011 studies. We also review national policy frameworks that are in place to ban or restrict the national manufacture, import, sale and use of enamel decorative paints and how changes in lead levels in paints may have resulted from changes in that regulatory framework since the last study.

The report also presents background information on why the use of household paints with high lead content is a source of serious concern, especially to children's health. And it proposes recommendations for taking action to protect children and others from lead in paint.

This report was prepared by Centre of Public Health and Environmental Development (CEPHED) with support and assistance from the Asian Lead Paint Elimination Project. The Asian Lead Paint Elimination Project has been established to eliminate lead in paint and raise widespread awareness among business entrepreneurs and consumers about the adverse human health impacts of lead-based decorative paints, particularly on the health of children under six years old.

The Asian Lead Paint Elimination Project is being implemented by IPEN over a period of three years in seven countries (Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand) with funding from the European Union (EU) totaling €1.4 million. While this

publication has been produced with the assistance of the European Union, the contents of the publication are the sole responsibility of CEPHED and can in no way be taken to reflect the views of the European Union. In addition, this document was produced with financial contributions from the Swedish Environment Protection Agency, Swedish public development co-operation aid through the Swedish Society for Nature Conservation, SSNC. The views herein shall not necessarily be taken to reflect the official opinion of any of these donors, including SSNC or its donors.

CEPHED is an environmental NGO established in the year 2004, by and through the contribution, coordination from a group of activist and experienced people from medical, environment and public health sectors. CEPHED's focus is to serve the Nepalese people and communities in the field of public health and environment. CEPHED has adopted the vision of acting as a bridging forum between people and science and technology, to make new scientific knowledge, technology and safety measures of environment and public health sector accessible through research, coordination, capacity building and policy dialogue, etc.

CEPHED works within Nepal to bring the experience from people and organizations on the ground to the concerned authorities' notice in order to develop meaningful and sustainable solutions. In the past 9 years CEPHED has been engaged in research, awareness raising, capacity building, policy influence (especially in the areas of chemical management), pesticides, obsolete pesticides, healthcare waste, persistent organic pollutants (POPs), and heavy metals like mercury, lead and cadmium. With its growing interest and engagement with various environmental issues of national and international importance, CEPHED has become an active participating organization in several global networks working in the area of public health, environment and toxic free future. CEPHED is a member organization of Toxics Link, IPEN, the Global Alliance for Incinerator Alternatives (GAIA), Healthcare Without Harm, Collaborative on Health and the Environment (CHE), the Zero Mercury Working Group (ZMWG) and the World Alliance for Mercury Free Dentistry (WAMFD).

IPEN is an international NGO network of health and environmental organizations from all regions of the world in which CEPHED participates. 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.

The European Union is made up of 27 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development, while maintaining cultural diversity, tolerance and individual freedom. The European Union is committed to sharing its achievements and its values with countries and people beyond its borders.

LIST OF ACRONYMS

° C	degree Celsius
AES	Atomic Emission Spectrophotometer
CEPHED	Centre of Public Health and Environmental Development
CHE	Collaborative on Health and the Environment
DoE	Department of Education
ELPAT	Environmental Lead Proficiency Analytical Testing
EU	European Union
GAIA	Global Alliance for Incinerator Alternatives
GAELP	Global Alliance to Eliminate Lead Paint
ICCM	International Conference on Chemicals Management
IPEN	International POPs Elimination Network
mg	milligram
mL	milliliter
MoE	Ministry of Education
MOSTE	Ministry of Science, Technology and Environment
NBSM	Nepal Bureau of Standard and Metrology
NS	Nepal Standard
ppm	parts per million
SME	Small and Medium sized Enterprises
SSNC	Swedish Society for Nature Conservation
UNEP	United Nations Environmental Programme
WAMFD	World Alliance for Mercury Free Dentistry
WHO	World Health Organization
ZMWG	Zero Mercury Waste Group

Contents

Executive Summary

From October 2012 to March 2013, the Nepal NGO Center for Public Health and Environmental Development (CEPHED) purchased 49 cans of enamel decorative[1] paints from stores in and around Kathmandu, Pokhara and Butwal. Samples from each paint can were analyzed to determine their lead content by a laboratory in Italy accredited by ACCREDIA – the Italian Accreditation System. The lab participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) proficiency testing program operated by the American Industrial Hygiene Association under a system created by the US Environmental Protection Agency. Paints from 21 paint brands were analyzed. The results were compared with previous studies of lead levels in Nepalese household paints conducted in 2010 and 2011.

Summary of Results of paint lead levels in Nepal

Analyzed Samples

71 percent of paints sold in Nepal have lead levels above the proposed 90 ppm limit and would not be permitted for sale in the United States. Dangerously high lead concentrations (over 10,000 ppm) were found in 29 percent of all paints analyzed.

Of the 49 analyzed enamel paints, 71 percent (35 paints) had lead levels above 90 parts per million (ppm) dry weight; 65 percent (32 paints) levels above 600 ppm; and 29 percent (14 paints) had dangerously high levels above 10,000 ppm. The highest lead level detected was 130,000 ppm.

Colors

Green, red, yellow and blue color paints are the most likely to contain dangerously high levels of lead.

The brightly colored paints (green, blue, red and yellow) most frequently contained high lead levels. 83 percent of the green paints, 80 percent of the blue and yellow paints and 75 percent of the red paints had lead levels above 90 ppm. In addition, the yellow and the green paints had the highest lead concentrations with averages of 50,200 ppm and 36,800 respectively. Although white paints generally contain less lead, more than half (63 percent, 19 out of 12) of the white samples had lead levels above 90 ppm.

Paint Brands

Most paint brands in Nepal sell paint above the proposed acceptable level of 90 ppm and more than half of the brands (57 percent, 21 out of 12 brands) sell paints with dangerously high levels above 10,000 ppm.

---

[1] The term "*decorative paint*" as used in this study refers to paints that are produced for use on inside or outside walls and surfaces of homes, schools, commercial buildings and similar structures. The term "*enamel*" as used in this study refers to oil based paints.

Lead above the proposed acceptable limit of 90 ppm was detected in paint samples from 16 of the 21 brands included in the study. At least one samples from 15 brands had paint samples with lead levels above 600 ppm and 12 brands had paint samples with lead levels above 10,000 ppm. All paints analyzed from five brands contained lead levels below 90 ppm, suggesting that the companies producing these paints had the technology to produce non-leaded paint.

Comparison with previous studies

The study presented in this report includes a larger number of paints and brands than in previous studies, but all studies have shown that dangerously high lead concentrations in analyzed enamel paints are easily available on the Nepalese market.

Paints from nine manufacturers that were included in the 2013 study were also analyzed in 2010 or 2011, or both. Out of these nine, paints from four of them have consistently contained high lead concentrations in all studies, whereas paints from two of them showed reduced lead levels in the current study compared to the previous results. In 2013 study, average lead content is found to be 16,600 ppm which was 12,100 ppm in 2010 and 28,400 ppm in 2011.

In 2010, highest lead concentration was 74,000 ppm which was lower than 2, 12,700 ppm (2011) and 1,30,000 ppm (2013). According to study in 2010, only 15 percent of samples had lead concentration lower than 90 ppm whereas in 2011 and 2013, percentage increases to 33 and 29 respectively.

This finding suggests that as long as Nepal continues to have no rules, regulations or policies to limit the lead contain in household paints, many paint manufacturers will not voluntarily remove the lead from their paint production.

Conclusions & Recommendations

This study demonstrates that common enamel household paints with high levels of lead are still widely available on the Nepalese market. Although studies in 2010 and 2011 called for action by showing high lead levels in enamel paints, the average of lead in the paints included in this study still remains very high at 16,600 ppm. In addition, this study shows that paints with levels as high as 130,000 ppm (dry weight) are still sold for household use.

Only two of the nine brands included in this study that were also previously analyzed have reduced the lead content in their paints, whereas the paints from four brands still contains high lead levels. In 2010, only 15 percent of samples had lead concentration lower than 90 ppm whereas in 2011 and 2013, percent increases to 33 and 29 respectively. This shows that without enforced legislation limiting the lead content of enamel decorative paints, many manufacturers will continue to sell paints with dangerously high levels of lead. If same situation continues for

coming years, children who are also building block of country are in danger zone from health perspective.

The issue of lead in paint has been a prioritized issue in most highly industrialized countries for many decades, but the government of Nepal has, until recently, not taken this problem seriously. However, a number of governmental bodies such as Ministry of Science, Technology and Environment (MOSTE), Nepal Bureau of Standard and Metrology (NBSM), and Department of Education (DOE) have now taken some initial steps to collaborate with representatives from civil society to formulate a standard for lead content of household paints, create policies, persuade paint manufacturers to remove lead from their paints, and raise mass awareness through school networks. Last year (2012) NBSM also analyzed some paint brands for their lead content, which further shows governmental initiative to solve the problem related to intentional addition of lead in paint. Likewise, the NGO LEADERS in Nepal has also recently carried out a study of lead in 75 enamel paints, and their results are helping to raise awareness of the issue.

Finally, several paint manufacturing companies, mainly multinational, have recently started to voluntarily remove lead from their paint manufacture. Currently, there are four different paint manufacturers advertising that they are supplying paints with symbol in its paint can "No ADDED LEAD" to the market.

Key recommendations:

CEPHED recommends the following actions to continue the efforts to protect the Nepalese children:

- The Nepal government must
    - Enact a mandatory standard for lead in household paints.
    - Provide support to small and medium-sized paint manufacturers for paint analysis, to remove lead from their paint production, and support awareness programs related to the hazard of leaded paints.
    - Should bring awareness program on Impact of lead in Human Health issues.
    - Require paint cans to be properly labeled with details of paint ingredients and to alert users to the hazards of lead-contaminated dust and other materials when previously painted surfaces are scraped or sanded in preparation for repainting.
    - To ensure the consumer to buy Lead Free Paints, 3rd party certification must be enacted.

- All stakeholders (e.g. civil society, education professionals, healthcare professionals and media) must work actively and collaborate with each other to spread public awareness on the issue of leaded paints.
- There is an urgent need for third party certification to ensure that the paints consumers purchase are lead-free.
- Consumers should always ask for paints without lead to protect the health of their families.
- Consumer should always check the labeling whether paint they are going to purchase is Lead Free or Not in order to protect their family and children's health.

1. Introduction and Background to the Lead Paint Issue

Lead is a toxic metal, which can be found in paints when a paint manufacturer intentionally adds one or more lead compound to the paint for some purpose. The lead compounds most commonly added to paint are pigments that give the paint its color. Lead compounds commonly used as paint pigments include: lead chromates, lead oxides, lead molybdates, and lead sulfates. These are added to produce bright colors such as yellow, red and green. Lead compounds may also be added to paint to serve as drying agents and catalysts in oil-based paints. These make the paint dry faster and more evenly. Lead-based corrosion resistance agents are sometimes added to paints that are used on metal surfaces in order to inhibit rust and corrosion. The most common of these is lead tetroxide, sometimes called red lead or minium.

Good, cost-effective substitutes for all the lead compounds that are used in making household paints have been widely available since the 1980's and before. Any paint manufacturer that currently produces household paints with added lead compounds could easily reformulate its paints using these substitutes with very little (if any) impact on the characteristics of the paints they produce or on the price. There is no good reason for a paint manufacturer to continue producing paints with added lead compounds, especially since the childhood health hazards associated with lead paint are very serious and well-documented.

When a paint manufacturer does not intentionally add lead compounds in the formulation of its paints, the lead content of the paint will be very low – almost always less than 90 parts per million (total lead, dry weight). If a paint manufacturer is careful in selecting ingredients that do not contain lead as a contaminant, the lead content of the paint will often be as low as 10 parts per million of less.

In almost all cases where recent studies have been conducted, water-based paints (sometimes called latex or acrylic paints) do not contain added lead. On the other hand, in most developing countries and countries with economies in transition where paints have recently been analyzed for their lead content, many of the oil-based paints (sometimes called enamel paints) contain high lead content. For this reason, the current study Lead in Nepalese Household Paint, selected to only analyze oil-based paints for lead content.

2. Lead Exposure to children and its Health Effects

Children are not generally exposed to lead from paint while the paint is still in the can or even when the paint is being newly applied to a previously unpainted or uncoated surface. Rather, the lead exposure generally occurs after the lead paint has already dried on the wall or on the article that has been painted.

Painted surfaces age, weather, and chip with time. Any lead that is in the paint then enters indoor and outdoor dusts and soils in and around the painted home or building. Children have an innate curiosity to explore their world and engage in developmentally appropriate hand-to-mouth behavior. When playing in lead contaminated environments, the dust and soil that they ingest will carry lead. This is especially true for children in the six years and under age group, the group most easily harmed by exposure to lead. For example, a typical one to six year old child ingests approximately 100 milligrams of house dust and soil each day.[2]


Figure 1. Paint Chips

Paint chips can be especially harmful since their lead content can be much higher than what is typically found in dust and soils. In some cases, children may pick up paint chips and put them into their mouth. In addition, when toys or other articles are painted with lead paint, children may chew on them and directly ingest the lead-contaminated dried paint. However, the most common way in which children ingest lead is thought to be through lead-containing dust.

Children and workers are especially at risk when surfaces that were previously painted with lead paint are repainted or disturbed by construction or other activities. Workmen may sand, dry scrape, grind, or in other ways disturb the old painted surface and produce large quantities of dust with very high lead content.

Exposure to lead is much more harmful to children than adults, and the health effects are generally irreversible and can have a lifelong impact.[3] 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. That means that lead can poison several generations, and not only one person during active exposure.

Children are more biologically susceptible to lead than adults for several reasons including:

- A child's brain undergoes very rapid growth, development and differentiation and lead interferes with this process. Brain damage caused by chronic, low-level exposure to lead during early years is irreversible and untreatable.
- Exposure to lead early in life can re-program genes, which can lead to altered gene expression and an associated increased risk of disease later in life.
- Gastrointestinal absorption of lead is enhanced in childhood. Up to 50 percent of ingested lead is absorbed by children, as compared with 10 percent in adults. (Pregnant women may

also absorb more ingested lead than other adults). In those children who suffer from nutritional deficiencies, ingested lead is absorbed at an even more increased rate.

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.[4]

In recent years, medical researchers have been documenting significant health impacts on children from lower and lower lead exposures.[5] In response, the U.S. Centers for Disease Control and Prevention (CDC) and other authorities have concluded that there is no known acceptable lead exposure level for children[6].

A recent study that investigated the economic impact of childhood lead exposure on national economies estimated a total cumulative cost of $977 billion international dollars[7] per year for all low and middle income countries.[8] The study considered the neurodevelopmental effects on lead-exposed children, as measured by reduced intellectual quotient (IQ) points and correlated lead exposure-related reductions in children's IQ scores to reductions in their lifetime economic productivity as expressed in the child's lifelong earning power. The study identifies many different sources of lead exposure in children with lead paint as one "major source." Broken down by region, the estimated costs of childhood lead exposure were:

- Africa: $134.7 billion of economic loss or 4.03% of Gross Domestic Product (GDP)

- Latin America and the Caribbean: $142.3 billion loss in Latin America and the Caribbean or 2.04% of GDP
- Asia: $699.9 billion loss or 1.88% of GDP
- Nepal: $ 1,533,245,125 loss or 4 % of GDP (38,302,000,000 US$)

3. Global Lead Paint Elimination Efforts

The use of lead in household paints is a matter of global concern. At the International Conference on Chemicals Management (ICCM) held in 2009, lead paints were identified by consensus to be international priority issues of concern. Representatives of the Government of Nepal participated in this conference as observers.

In response to the ICCM decision, the United Nations Environmental Programme (UNEP) and the World Health Organization (WHO) jointly initiated a global partnership to eliminate the use of lead compounds in paints in order to protect public health and the environment. This partnership is called the Global Alliance to Eliminate Lead Paint (GAELP), and it's overall goal is to prevent children's exposure to lead via paints containing lead and to minimize occupational exposures to lead in paint. GAELP's broad objective is to phase out the manufacture and sale of paints containing lead and, eventually, to eliminate the risks from such paint.

In 2012, the third meeting of the ICCM was held. A representative of the Government of Nepal also participated as observer in this meeting. The Conference agreed by consensus to call upon governments, civil society organizations, and the private sector to contribute to GAELP in various ways including by:

- Raising awareness about the toxicity to human health from lead in paint including for young children, paint users, and the workers in paint production facilities;
- Filling information gaps by analyzing paints for their lead content in countries where little or no data are available;
- Promoting national regulatory frameworks, as appropriate, to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;
- Encouraging paint manufacturing companies to substitute lead compounds added to paint with safer alternatives; and
- Establishing prevention programs to reduce exposure in and around housing, childcare facilities, schools and other buildings where lead paint has been used in the past.

4. Nepalese Framework for Eliminating Lead Paint

Most highly industrial countries enacted laws, regulations or mandatory standards to protect the health of their people in the 1970's and 1980's. These laws generally 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. Other countries have adopted mandatory limits in the range of 90 to 600 ppm total lead (dry weight). NGOs associated with the IPEN network generally promote the 90-ppm standard as one that is fully achievable and maximally protective.

For decades, household paints that are produced for sale in highly industrial countries have not used added lead compounds as pigments, drying agents or for other purposes. Most paint manufacturers that produce paints for sale in the developing world know the reason why. It is unfortunate that lead paints for household use are still being produced, sold and used. This practice must now end.

Regulatory Framework:

No regulations or laws exists in Nepal specifically limiting lead in household paint. However, the umbrella Interim Constitution in place recognizes the right to live and the right to a healthy environment as fundamental rights of the people. However, there are voluntary standards that refer to enamel paints. Nepal has a voluntary standard, Nepal Standard 112: 2043 (part 1, 1986), which refers to enamel paint for exterior protection and decorative finishing purposes. Unfortunately, there is no requirements regarding lead content in paint to receive the Nepal Standard (NS) mark.

Paint brands in Nepal

In recent years, paint sales have grown rapidly. According to few studies and statistical analysis, it's increasing at annual rate of 35 percent.[9]

In current scenario, there are around 100 paint industries registered in name of small and medium industries, unfortunately only 30 around paint industries are currently operating in Nepal. The four major paint brands sold in Nepal are Asian Paints, Berger Jenson & Nicholson, Pashupati Paints and Nepal Shalimar Paints. According to their own estimates, Asian Paints is the leading

paint manufacturer in terms of domestic market share with 40 percent followed by Berger Jenson & Nicholson (27 percent), Pashupati Paints (20 percent), and Nepal Shalimar Paints (13 percent).[10] However, the actual numbers are somewhat lower since other players also are active on the Nepalese paint market. Since the article was published, Nepal Shalimar paints have merged with Kansai Nepal

Domestic products such as Asian, Berger Jenson & Nicholson, Pashupati, Apollo, G7 Paint, etc. account for up to 70 percent of market share. Imported paints make up about 30 percent of the national market, with the majority from India, China, Thailand, Singapore and USA.[11]

According to Nepal Rastriya Bank, paint imported from India alone was worth 886 million Nepalese Rupees in fiscal year 2012.[12] Small and medium-sized paint manufacturers (SMEs) primarily serve local markets, which makes their percentage of market share hard to obtain. Among the different types of paint sold, a fifth are enamel decorative paints.

Of the brands included in the study, four are produced by multinational companies (Asian Paints, Kansai Paints, Berger Jenson & Nicolson and ICI Dulux) with production sites in Nepal (Asian Paints, Kansai Paints and Berger Jenson & Nicolson) and India (ICI Dulux); two brands are from Indian manufacturers (Modi Paints and Micolite paint); and the other 15 brands are produced by Nepalese manufacturers.

5. Materials and Methods

In 2013, the Nepal NGO, Center for Public Health and Environmental Development (CEPHED), with help and support from the international NGO network IPEN, purchased 49 cans of enamel decorative paints from stores in and around Kathmandu, Butwal and Pokhara. These paints were from 21 different brands. In most cases, selection was based on the availability of color in market, with a focus on bright colors such as red or yellow. The availability of these paints in retail

Figure 2 Paints included in 2013 Study

establishments suggested that they were intended to be used within home environments. Excluded were automotive and industrial paints that are not typically used for domestic housing applications or to paint toys.

Paint sample preparation kits containing individually numbered, untreated wood pieces, single-use brushes and stirring utensils made from untreated wood sticks were assembled and shipped to CEPHED by staff of the IPEN partner NGO, Arnika, in the Czech Republic. Each paint sample was thoroughly stirred in the can and applied by a separate unused single-use brush to duplicate, individual, numbered, unused, wood pieces by staff of CEPHED.

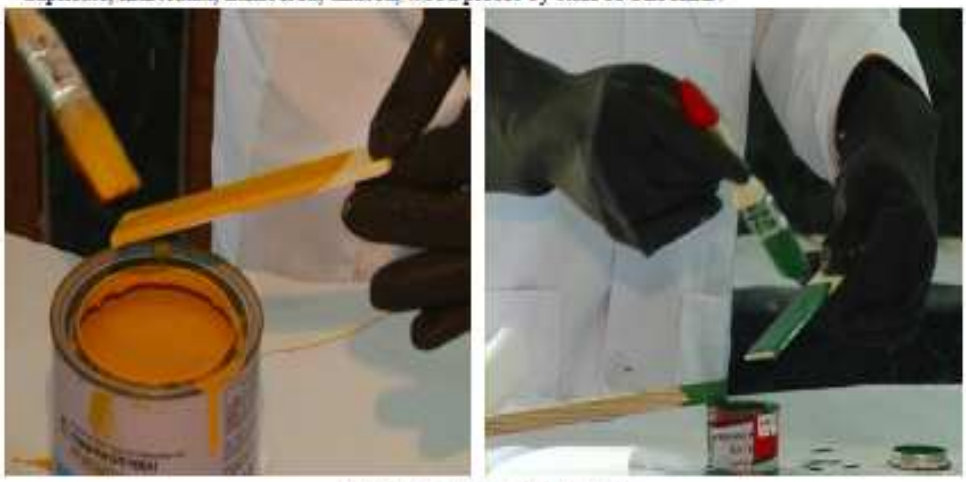


Figure 3.The Paint Sampling method

Each stirring utensil and paintbrush was used only once, and care was taken to avoid cross contamination. After drying, the wood pieces were placed in individual plastic bags and shipped for analysis of lead content to Certottica laboratory in Italy.

Figure 4. Dry painted coded wooden strip samples

Certottica is accredited by ACCREDIA – the Italian Accreditation System, which is the Italian National Accreditation Body appointed by the State. This laboratory participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program operated by the American Industrial Hygiene Association under a program established by the US Environmental Protection Agency.

At the laboratory, a quantity of paint was removed from the wood piece by abrasion. The paint was then weighed into a hot block digestion tube and the paint chips digested according to method CPSC-CH-E1003-09.1. The paint was placed in a beaker of borosilicate, in which were added 3 mL of HNO3 and 1 mL of 30% H_2O_2. The beaker was covered with a glass and heated on a hotplate (surface temperature of approximately 140 ° C, from 85 initially to 100 ° C) until most of the acid had evaporated. This treatment was repeated twice. The beaker containing the sample was removed from the plate and let cool to room temperature. In addition, the cover glass was rinsed with a quantity of HNO_3 10% from 3 to 5 mL and the solution left to evaporate slowly and cool to room temperature. Finally, 1 mL of HNO_3 was added to the residue, which was agitated to dissolve the soluble species. The walls of the beaker and the bottom of the cover glass were rinsed and the solution was transferred into a flask and brought to volume with deionized water.

Lead in the digestates was analyzed by an Atomic emission spectrophotometer (ICP-AES), Thermo Scientific iCAP 6000 Series, using yttrium (2 mg/L) as internal standard.

The laboratory's lower limit of detection for the lead concentration in the paint samples is dependent on the amount of paint in the samples. Generally, for 100 mg of paint scraped off the wood pieces the lowest detection limit is 8 ppm, but for a smaller amount of paint the detection limit increases. Therefore, the lead content in one of the samples is reported as below 9 ppm.

6. Results

71 percent of paints sold in Nepal have lead levels above the proposed 90 ppm limit and would not be permitted for sale in the United States or in other developed countries. Dangerously high levels of lead (above 10,000 ppm) were found in 29 percent of all paints tested.

A total of 49 cans of new enamel decorative paint from 21 brands were purchased from stores in and around Kathmandu, Pokhara and Butwal in Nepal, and analyzed to determine their lead content. The details of the paints are listed in appendix 1. The sample results are expressed as parts per million (ppm) total lead, based on the dry weight of the sample (Fig. 1, Appendix 2).

The average concentration of all analyzed paints was 16,600 ppm, which is 181 times more than the proposed acceptable limit of 90 ppm. Dangerously high lead concentrations above 10,000 ppm were found in 14 (29 percent) of the 49 enamel paints, 18 (37 percent) of the paints had lead

concentrations between 600 ppm and 10,000 ppm whereas three (6 percent) samples of enamel paints had concentrations between 90 ppm and 600ppm.

In sum, 71 percent of the paints had lead concentrations above 90 ppm and would not be permitted for sale in the United States. In addition 65 percent had lead concentrations above 600 ppm and would not be permitted for sale in most industrialized countries.

The highest concentration detected was 130,000 ppm, which is 1,444 times more than the proposed acceptable level of 90 ppm.

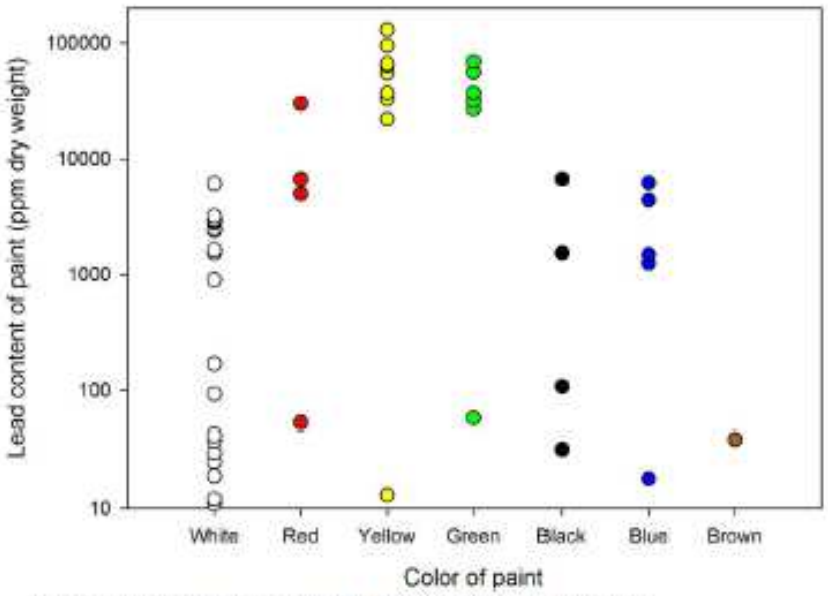


Figure 5. Lead content (in part per million dry weight) of the analyzed paints.
Please note that there is a tenfold increase in lead concentration between each major tick

Lead Concentration by Brand

Most paint brands in Nepal sell paints containing lead above the proposed acceptable level of 90 ppm, and more than half of the brands (57 percent, 12 out of 21 brand) sell paints with dangerously high levels above 10,000 ppm

Lead above the proposed acceptable limit of 90 ppm was detected in paint samples from 16 of the 21 brands included in the study (Table 1, appendix 2). Paint samples from 15 brands had lead levels above 600 ppm, and paint samples from 12 brands had lead levels above 10,000 ppm. One brand included a paint sample with the extremely high lead content of 130,000 ppm (i.e., 13 percent of the weight of the dry paint).

All paints from five brands contained lead levels below 90 ppm. Among these five are both national and multinational companies. In addition, two Indian companies produced paints with both very high lead content i.e. around 100,000 ppm,

Of the 49 samples,12 were from multinational companies, 4 from Indian manufacturers and 33 from Nepalese manufacturers. All four paints samples from Indian manufacturers, one of 12 samples (8 percent) from multinational companies, and 30 of the 33 (91 percent) paint samples from national manufacturers contained lead levels above 90 ppm.

Overall, 71 percentage of samples (35 out of 49) had lead level greater than 90 ppm, 65 percent (32 out of 49) had lead level higher than 600 ppm and 29 percent (14 out of 49) had lead level higher than 10,000 ppm. Among the tested sample and lead concentration, highest lead concentration was 130000 ppm which is 1444 times greater than the acceptable lead level (90 ppm).

Table 1 **Lead concentration on sample grouped according to manufacturer**

Paint Manufacturer	**Number of Samples (color)**	**Brand headquarters**	**Number of Samples Above 90 ppm lead**	**Number of Samples Above 600 ppm lead**	**Number of Samples Above 10,000 ppm lead**	**Min. Ppm**	**Max. Ppm**
Apollo Paints	2	Nepal	2	2	1	1,630	64,000
Asian Paints	5	India	0	0	0	< 9	58
Baba Paints	5	Nepal	5	5	1	6,100	69,000
Berger Jensen and Nicholson	2	India	0	0	0	11	13
Dalmia Paints	2	Nepal	2	2	1	1,540	32,000
G7 Paints	2	Nepal	2	2	1	2,400	37,000
ICI Dulux	1 (white)	India	0	0	0	30	
Kansai Paints	4	Japan	1	0	0	12	108
Krish Paints	1 (white)	Nepal	1	1	0	900	
Mahalaxmi Paints	1 (white)	Nepal	0	0	0	19	
Micolite	1 (white)	India	1	1	0	3,200	
Modi Paints	2	India	2	2	2		55,000
Nepal Paints	2	Nepal	2	2	1		66,000
Pashupati Paints	4	Nepal	4	3	2	169	130,000
Ratee Paints	4	Nepal	4	4	1		30,000
Reliance Paints	3	Nepal	3	3	1	2,500	37,000
Rukmani chemicals Industries	2	Nepal	2	1	1	93	95,000
Shalimar Paints	2	Nepal	2	2	1	2,900	33,000
Three Rifle Paints	1 (blue)	India	1	1	0	1,250	
Tirupati Paints	2	Nepal	1	1	1	42	22,000
Yeti Paints	1 (black)	Nepal	0	0	0	32	
Total number	**49**		**35**	**32**	**14**	**< 9**	**130,000**

Lead Concentration by Color

Green, yellow, red and blue color paints are the most likely to contain dangerously high levels of lead.

Green, yellow and blue color paints most frequently contained lead levels above 90 ppm (83 percent, 80 percent and 80 percent, respectively). (Fig 3, Appendix 3) At the same time, the only brown sample contained lead below 90 ppm. Both 75 percent of the red and black samples contained lead above 90 ppm and 63 percent of the white samples had lead levels above 90 ppm.

The range of the concentrations of lead in the paints and average lead concentration according to color is shown in Table 2. Yellow, green and red had the highest average concentrations of lead (50,200 ppm, 36,800 ppm and 10,400 ppm respectively). Blue had a high frequency of samples with a lead concentration above 90 ppm, but, at the same time, the average was in the same range as the black and white samples (2,700 ppm).

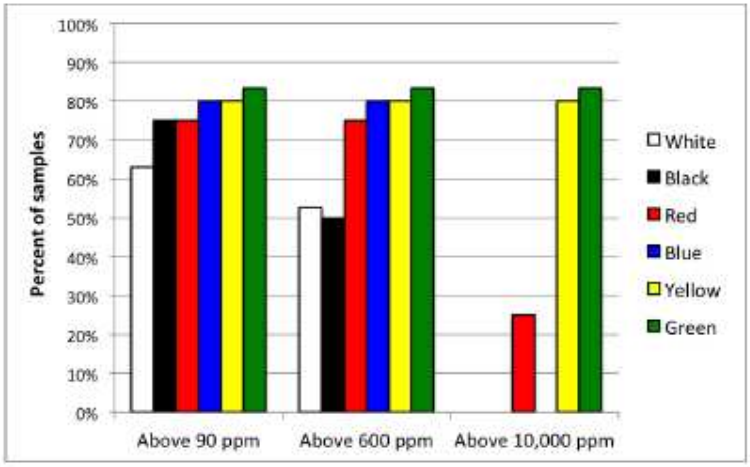


Figure 5 Lead concentrations in the analyzed paints arranged according to color

Table 2 **Lead concentration in the analyzed paint samples according to color**

Color	Number of samples	Average lead concentration (ppm)	Maximum lead concentration (ppm)	Minimum lead concentration (ppm)
Brown	1	39	39	39
White	19	1,443	6,100	11
Black	4	2,100	6,700	32
Blue	5	2,700	6,200	18
Red	4	10,400	30,000	53
Green	6	36,800	69,000	58
Yellow	10	50,200	130,000	8

Lead concentrations in labeled paint cans

No paints where the label indicated "No Added Lead" contained high levels of lead. However the Nepali Standard mark was no guarantee for low lead levels in the paint.

The labels of 12 of 49 of the analyzed paints included an indication of "No Added Lead", 20 of the paints included the Nepal Quality Certification Mark (NS Mark), and seven paints included both labels (Tab 3). The Nepal Bureau of Standards & Metrology (NBSM) awards this mark to Nepalese industries in order to motivate high quality goods produced according to relevant Nepalese standards and to enable Nepalese products to compete more efficiently in regional (or global) markets.

Paints indicating "No Added Lead" did not have high lead levels, even though this is a self certification and not verified by a third party or even by the concerned government agencies. The NS Mark does not include criteria for lead levels in paints, and it is evident that it does not safeguard against lead, since five of the 20 NS Marked paints contained very high lead levels (>10,000 ppm).

Table 3 Paint samples with labeling

Sample Number	Brand Name	Color of Paint	Parts Per Million Lead (dry weight)	Label indicating "No Added Lead"	NS mark
NPL-141	Asian Paints	Yellow	< 9	Yes	Yes
NPL-129	Kansai Paints	Black	108	Yes	No
NPL-130	Berger Jonson & Nicolson	White	11	Yes	Yes
NPL-127	Kansai Paints	White	12	Yes	No
NPL-145	Berger Jonson & Nicolson	Yellow	13	Yes	Yes
NPL-113	Pashupati Paints Nepolite	Yellow	130,000	No	Yes
NPL-114	Pashupati Paints Nepolite	White	169	No	Yes
NPL-153	Asian Paints	Blue	18	Yes	Yes
NPL-106	Reliance Paints	White	2,500	No	Yes
NPL-149	Nepal Paints	White	2,800	No	Yes
NPL-101	Shalimar paints	White	2,900	No	Yes
NPL-109	Asian Paints	White	25	Yes	Yes
NPL-108	ICI Dulux	White	30	Yes	No
NPL-102	Shalimar paints	Yellow	33,000	No	Yes
NPL-110	Kansai Paints	White	38	Yes	No
NPL-128	Kansai Paints	Brown	39	Yes	No
NPL-143	Reliance Paints	Blue	4,400	No	Yes
NPL-121	Pashupati paints Nepolite	Red	5,000	No	Yes
NPL-140	Asian Paints	Red	53	Yes	Yes
NPL-122	Pashupati Paints Nepolite	Green	56,000	No	Yes
NPL-142	Asian Paints	Green	58	Yes	Yes
NPL-146	Baba Paints	White	6,100	No	Yes
NPL-116	Baba Paints	Blue	6,200	No	Yes
NPL-104	Apollo Paints	Yellow	64,000	No	Yes
NPL-103	Nepal Paints	Yellow	66,000	No	Yes

Lead Concentrations in 2013 compared to previous studies

Though lead levels remain high, there is some improvement compared to earlier studies

The present study included paints from nine paint manufacturers that were also included in a similar study from either 2010 or 2011, or both (Tab. 4). It was not always possible to analyze the same colors for each brand as in previously studies, and therefore other colors from the same brand were selected.

In 2010, 88 percent of the paint samples from the nine brands analyzed contained lead levels above 90 ppm. In 2011, 67 percent of the brands had lead levels above 90 ppm. In the present study only 50 percent of the brands had lead levels above 90 ppm.

Of the four manufacturers represented in all three studies, two consistently had relatively low lead content, below 600 ppm (ICI Dulux and Kansai Nerolac).

Paint samples from the other two manufacturers included in all three studies (Asian Paints and Berger Jenson & Nicholson) contained high levels of lead (>600 ppm) in the 2010 and 2011 studies, but had reduced the lead content to below 90 ppm in all the paints sampled in the 2013 study. According to study in 2010, only 15 percent of samples had lead concentration lower than 90 ppm whereas in 2011 and 2013, percentage increases to 33 and 29 respectively.

Samples from four manufacturers included in both the 2010 and the current study (Pashupati Paints, Nepal Paints, Reliance Paints and Rukmani Chemical Industry) still show high levels of lead.

Table 4 Comparison of nine brands included in current and previous studies by CEPHED

		Lead concentrations (ppm)		
Brand	**Color**	**2010 Study**	**2011 Study**	**2013 Study**
Asian Paints	Orange	74,000	64,400	
	Green		190	58
	Yellow		190	< 9
	White			25
	Red			53
	Blue			18
Berger Jenson & Nicholson	Red	8,900	13,200	
	Green		49,700	
	Yellow		213,000	13
	White			11
ICI Dulux	Yellow		60	
	Orange		66	
	Green		70	
	White			30

Kansai Nerolac	Red		65	
	Yellow		100	
	Green		270	
	Black	5		108
	White			12
	White			38
	Brown			39
Pashupati Paints	Brown	3,100		
	Yellow			130,000
	White			169
	Red			5,000
	Green			56000
Nepal Paints	Green	55,800		
	Yellow			66,000
	White			2,800
Reliance Paints	Blue	4,000		4,400
	White			2,500
	Yellow			37,000
Rukmani Chemical Industry	Blue	2,300		
	Yellow			95,000
	White			93
Yeti Paints	Red	2,600		
	Black			32

Note: Recently Kansai Nerolac India and Kansai Nepal (Nerolac) Paints merged so are placed in same column in above table.

7. Discussion and Recommendations

This is the third time Centre of Public Health and Environmental Development (CEPHED) has coordinated studies in Nepal where paints were analyzed to determine their lead content.

Comparison with previous studies

This study included more paints than the previous studies. Also current study included enamel paints only. As per current study, majority of enamel household paints available on the Nepalese market still contain high levels of lead (Table 1, appendix 2). The details of the three studies provide some encouraging developments.

Paint samples from two manufacturers included in all three studies (Asian Paints and Berger Jenson & Nicholson) contained high levels of lead (>600 ppm) in the studies in 2010 and 2011, but had reduced the lead content to below 90 ppm in all the paints sampled in the 2013 study. In addition, the increasing percentage of paints with lead levels below 90 ppm for the brands included in previous studies is a positive trend. However, samples from four brands included both in the 2011 and the current study (Pashupati Paints, Nepal Paints, Reliance Paints and Rukmani Chemical Industry) still contain high levels of lead (Table 2). This suggests that some paint manufacturers will not, on a voluntary basis, remove lead from their paints, and that enforced legislation is required.

Labeling

There seems to be a positive development in Nepal when it comes to public awareness of the hazards of lead in paint, since 12 paint sample among 49 paints were advertised and labeled as "No Added Lead". However there is not any monitoring mechanism being developed or any government authorities to inspect the validity of claim. The results from the paint analyses did not contradict these claims. However, it is preferable that the validity of such claims be backed-up by a third party certification.

Ten brands have the Nepal Standard mark, but it is clear from this study that this label does not ensure low lead levels. The criteria for using this mark needs to be expanded to include "unleaded."

Availability of paints with low lead content

Looking at the minimum lead concentrations found for each paint color, it is clear that any color can be purchased with a low lead content in Nepal. Unfortunately, the main suppliers of paints with low lead content are the multinational or international companies. A few paints from Nepalese manufacturers contained low lead levels, but only for black and white paints and not for bright colors. It is clear that the national paint industry must be supported financially and

technically to switch to lead-free paint production in order to be able to compete with the multinational companies.

Recommendations:

The high prevalence of paints with a high lead content on the Nepalese market is a severe threat both for the health of the Nepali children and environment. It is clearly required that the government enacts a standard and a policy for the compulsory import, production, sales distribution and use of of non-leaded paints.

Recently, a few paint companies have started to produce lead free paints. However, this is only a voluntary initiative and unless a limit of lead in household paints becomes mandatory, consumers cannot be assured just by a claim from manufacturer. The recent movement from governmental agencies on this issue provides a ray of hope, and we hope to have a mandatory standard in place soon.

CEPHED recommends:

CEPHED based on this current study and active engagement and dialogue with all concerned organization wish to make following recommendations.

1. **At the National Level (the government)**

a. **Ministry of Science, Technology and Environment (MOSTE):**

- Prepare a regulatory framework for lead levels in household paints (standard, act, label, GHS, no added leaded paints, regional standard harmonization).
- Conduct regular monitoring and analysis of paint products.
- Require proper labeling of paints including lead content, list of other compounds, date of manufacture and date of expiry.
- Require labeling to alert users to the hazards of lead-contaminated dust and other materials when previously painted surfaces are scraped or sanded in preparation for repainting.
- Initiate a third party certification process to ensure that statements of lead-free paints are valid.
- Disseminate information about childhood lead poisoning in communities to make everyone aware about lead poisoning, lead content in paints, and its consequences for human health as well as the environment.

b. **Ministry of Education (MOE)/Department of Education (DOE)**

- Establish programs at the district level in order to raise awareness among school children throughout the country.
- Coordinate with the Ministry of Education, Department of Education (DoE) to include lead toxicity appropriately and timely manners in school / college level curricula.
- Declare schools, playgrounds, day-care centers and health care facilities as lead free zones.
- Adopt a Green and Environment Friendly Public Purchase policy of unleaded paints.

c. **Nepal Bureau of Standard and Metrology (NBSM), Ministry of Industry**

- Fix a lead limit less than 90 ppm as one of the mandatory criteria to award Nepal Standard for any paints products.
- Establish clear policies in order to limit lead content during manufacturing when awarding the NS standard.
- Provide technical assistance to small and medium-sized paint manufacturers in order to provide laboratory set up for product analyses.

2. **At the consumers level (to consumers):**

- Ask for paints with no added lead whenever paint is purchased and purchase only low lead products already on the market.
- Check labeling on paint products when purchasing paint to ensure that they are low lead paints.
- Keep all the receipt of paint purchased in order to realize the compensation if something goes wrong from the use of such paints.

3. **At scientific, private school, environmental and health associations level:**

- Conduct research on lead in paints and disseminate the results
- Educate members/students about non-added lead paints and include the issue on school level course syllabus.
- Establish programs to regularly check children's blood lead levels.
- Educate doctors and other health professionals about lead poisoning and ways to minimize exposure from surfaces previously coated with lead paints.

4. Recommendations to paint manufacturers, vendors, large purchasers, etc.

- Shift from leaded to non-leaded paint production.
- Provide technical support to small scale manufacturers to remove lead from their paint production
- Demand lead-free paint products from the paint manufacturers.
- Provide training on ways to minimize exposure when re-painting and other work involving surfaces previously painted with leaded paints.

8. Appendixes

Appendix 1: Details of Enamel Decorative Paints Purchased in Nepalese Market and Analyzed for Lead Content

Sample Number	Brand Name	Color of Paint	Paint Can Size	Manufacture Date	Batch Number	Date of Purchase	Website on Label
NPL-100	Malhalaxmi Pulverising Udyog	White	500mL	May-10	690141	2nd Oct 2012	Not Mentioned
NPL-101	Nepal Shalimar paints	White	100mL	Apr-12	690101	4th Oct 2012	Not Mentioned
NPL-102	Nepal Shalimar paints	Yellow	100mL	Aug-11	80501	4th Oct 2012	Not Mentioned
NPL-103	Nepal Paints	Yellow	1L	Jul-12	7085	2nd Oct 2012	Not Mentioned
NPL-104	Apollo Paints	Yellow	500mL	May-12	3028	4th Oct 2012	Not Mentioned
NPL-105	Apollo Paints	White	200mL	Oct. 2010	2213	4th Oct 2012	Not Mentioned
NPL-106	Reliance Paints	White	100mL	Sep-11	05/363	4th Oct 2012	Not Mentioned
NPL-107	Micolite	White	50mL	NA	NA	4th Oct 2012	Not Mentioned
NPL-108	ICI Dulux	White	500mL	Jan-10	Q07004039	4th Oct 2012	Not Mentioned
NPL-109	Asian Paints	White	500mL	Sep-12	30269	4th Oct 2012	www.asianpaints.com
NPL-110	Kansai Nerolac Paints	White	500mL	Jul-11	JZ	4th Oct 2012	Not Mentioned
NPL-111	RCI Nerolac	Yellow	200mL	Apr-05	01799	10th Oct 2012	Not Mentioned
NPL-112	RCI Nerolac	Ultra white	100mL	Mar-10	1760	10th Oct 2012	Not Mentioned

NPL-113	Pashupati Paints Nepolite	Yellow	100mL	Apr-11	D04611	10th Oct 2012	Not Mentioned
NPL-114	Pashupati Paints Nepolite	White	500mL	Aug-11	H01411	10th Oct 2012	Not Mentioned
NPL-115	Baba Paints	Black	50mL	Mar-10	202J	29th Jan 2013	Not Mentioned
NPL-116	Baba Paints	Blue	100mL	Apr.	233K	29th Jan 2013	Not Mentioned
NPL-117	Baba Paints	Red	50mL.	NA	NA	29th Jan 2013	Not Mentioned
NPL-118	Baba Paints	Green	50mL	NA	M50	29th Jan 2013	Not Mentioned
NPL-119	Modi Paint and Varnish Works	Green	50mL.	Aug-98	10B08	29th Jan 2013	Not Mentioned
NPL-120	Modi Paint and Varnish Works	Yellow	50mL	NA	G94	29th Jan 2013	Not Mentioned
NPL-121	Pashupati paints, Nepolite	Red	50mL	Dec-09	L02209	29th Jan 2013	Not Mentioned
NPL-122	Pashupati Paints, Nepolite	Green	50mL.	Mar-10	1210	29th Jan 2013	Not Mentioned
NPL-123	Ratee Paints Udhyog Pvt. Ltd.	Red	100mL	Feb-11	NA	29th Jan 2013	Not Mentioned
NPL-124	Ratee Paints Udhyog Pvt. Ltd.	White	100mL	Jan-11	NA	29th Jan 2013	Not Mentioned
NPL-125	Ratee Paints Udhyog Pvt. Ltd.	Black	100mL.	Apr-12	NA	29th Jan 2013	Not Mentioned

NPL-126	Ratee Paints Udhyog Pvt. Ltd.	Blue	100mL.	Jan-11	NA	29th Jan 2013	Not Mentioned
NPL-127	Kansai Nepal (Nerolac)	White	500mL	Feb-13	690801	17th March 2013	Not Mentioned
NPL-128	Kansai Nepal (Nerolac)	Brown	500mL	Dec-12	690701	17th March 2013	Not Mentioned
NPL-129	Kansai Nepal (Nerolac)	Black	500mL	Feb-13	690901	17th March 2013	Not Mentioned
NPL-130	Berger Jenson & Nicolson	White	200mL	May-11	H1275	17th March 2013	Not Mentioned
NPL-131	G7 Industries	White	500mL	Nov-12	0690801	21st March 2013	Not Mentioned
NPL-132	G7 Industries	Green	50mL	NA	NA	21st March 2013	Not Mentioned
NPL-133	Dalmia Paints and Chemical Industries	White	100mL	NA	1023	21st March 2013	Not Mentioned
NPL-134	Dalmia Paints and Chemical Industries	Green	500mL	NA	NA	21st March 2013	Not Mentioned
NPL-135	Tirupati Balaji Paints and Chemicals	White	200mL	NA	NA	21st March 2013	Not Mentioned
NPL-136	Tirupati Balaji Paints and Chemicals	Yellow	200mL	NA	NA	21st March 2013	Not Mentioned
NPL-137	Krish Paints	White	100mL	NA	NA	21st March 2013	Not Mentioned
NPL-138	Three Rifle	Blue	100mL	NA	NA	21st March 2013	Not Mentioned
NPL-140	Asian Paints	Red	100mL	Oct-12	30386	21st March 2013	www.asianpaints.com

NPL-141	Asian Paints	Yellow	100mL	Sept. 2012	29485	27th March 2013	www.asianpaints.com
NPL-142	Asian Paints	Green	100mL	Jul-11	22647	27th March 2013	www.asianpaints.com
NPL-143	Reliance Paints	Blue	100mL	Nov-12	7/458	27th March 2013	Not Mentioned
NPL-144	Yeti Paints	Black	500mL	Mar. 2013	28132	27th March 2013	Not Mentioned
NPL-145	Berger Jenson and Nicholson	Yellow	500mL	Feb. 2013	B0924	17th March 2013	Not Mentioned
NPL-146	Baba Paints	White	100mL	Sept. 2012	53/2	27th March 2013	Not Mentioned
NPL-148	Reliance Paints	Yellow	100mL	Mar. 2012	11/399	27th March 2013	Not Mentioned
NPL-149	Nepal Paints	White	500mL	Jan-13	NA	27th March 2013	Not Mentioned
NPL-153	Asian Paints	Blue	100mL	Nov-11	25809	17th March 2013	www.asianpaints.com

Appendix 2 .Results of Paint Analysis and Purchase Information for New Enamel Decorative Paints Purchased in Nepal

Sample Number	Brand Name	Color of Paint	Parts Per Million Lead (dry weight)	Brand Head-quarters[1]	Country Where Manufactured[1]	Is there information on can about lead content of paint?	Nepal Standard (NS) mark
NPL-100	Malhalaxmi Pulverising Udyog	White	19	Nepal	Nepal	No	No
NPL-101	Nepal Shalimar paints	White	2,900	Nepal	Nepal	No	Yes
NPL-102	Nepal Shalimar paints	Yellow	33,000	Nepal	Nepal	No	Yes
NPL-103	Nepal Paints	Yellow	66,000	Nepal	Nepal	No	Yes
NPL-104	Apollo Paints	Yellow	64,000	Nepal	Nepal	No	Yes
NPL-105	Apollo Paints	White	1,630	Nepal	Nepal	No	No
NPL-106	Reliance Paints	White	2,500	Nepal	Nepal	No	Yes
NPL-107	Micolite	White	3,200	India	India	No	No
NPL-108	ICI Dulux	White	30	United Kingdom	India	Yes, No added Pb, Hg, Cr	No
NPL-109	Asian Paints	White	25	India	Nepal	Yes, No added Pb,Hg, As & Cr	Yes
NPL-110	Kansai Paints Nerolac	White	38	Japan	India	Yes, No added Pb,Hg, As & Cr	No
NPL-111	RCI Nerolac	Yellow	95,000	Nepal	Nepal	No	No
NPL-112	RCI Nerolac	White	93	Nepal	Nepal	No	No
NPL-113	Pashupati Paints Nepolite	Yellow	130,000	Nepal	Nepal	No	Yes
NPL-114	Pashupati Paints Nepolite	White	169	Nepal	Nepal	No	Yes
NPL-115	Baba Paints	Black	6,700	Nepal	Nepal	No	No
NPL-116	Baba Paints	Blue	6,200	Nepal	Nepal	No	Yes
NPL-117	Baba Paints	Red	6,700	Nepal	Nepal	No	No
NPL-118	Baba Paints	Green	69,000	Nepal	Nepal	No	No

NPL-119	Modi Paint and Varnish Works	Green	27,000	India	India	No	No
NPL-120	Modi Paint and Varnish Works	Yellow	55,000	India	India	No	No
NPL-121	Pashupati Paints, Nepolite	Red	5,000	Nepal	Nepal	No	Yes
NPL-122	Pashupati Paints, Nepolite	Green	56,000	Nepal	Nepal	No	Yes
NPL-123	Ratee Paints Udhyog Pvt. Ltd.	Red	30000	Nepal	Nepal	No	No
NPL-124	Ratee Paints Udhyog Pvt. Ltd.	White	3,000	Nepal	Nepal	No	No
NPL-125	Ratee Paints Udhyog Pvt. Ltd.	Black	1,540	Nepal	Nepal	No	No
NPL-126	Ratee Paints Udhyog Pvt. Ltd.	Blue	1,490	Nepal	Nepal	No	No
NPL-127	Kansai Nepal (Nerolac)	White	12	Japan	Nepal	Yes, No added Pb, Hg, Cr, Ar and Antinomy	No
NPL-128	Kansai Nepal (Nerolac)	Brown	39	Japan	Nepal	Yes, No added Pb, Hg, Cr, Ar and Antinomy	No
NPL-129	Kansai Nepal (Nerolac)	Black	108	Japan	Nepal	Yes, No added Pb, Hg, Cr, Ar and Antinomy	No
NPL-130	Berger Jenson & Nicolson	White	11	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes
NPL-131	G7 Industries	White	2,400	Nepal	Nepal	No	No
NPL-132	G7 Industries	Green	37,000	Nepal	Nepal	No	No
NPL-133	Dalmia Paints and Chemical Industries	White	1,540	Nepal	Nepal	No	No
NPL-134	Dalmia Paints and Chemical Industries	Green	32,000	Nepal	Nepal	No	No
NPL-135	Tirupati Balaji Paints and Chemicals	White	42	Nepal	Nepal	No	No
NPL-136	Tirupati Balaji Paints and Chemicals	Yellow	22,000	Nepal	Nepal	No	No
NPL-137	Krish Paints	White	900	Nepal	Nepal	No	No
NPL-138	Three Rifle	Blue	1,250	India	India	No	No
NPL-140	Asian Paints	Red	53	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes

NPL-141	Asian Paints	Yellow	< 9	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes
NPL-142	Asian Paints	Green	58	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes
NPL-143	Reliance Paints	Blue	4,400	Nepal	Nepal	No	Yes
NPL-144	Yeti Paints	Black	32	Nepal	Nepal	No	No
NPL-145	Berger Jenson and Nicholson	Yellow	13	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes
NPL-146	Baba Paints	White	6,100	Nepal	Nepal	No	Yes
NPL-148	Reliance Paints	Yellow	37,000	Nepal	Nepal	No	No
NPL-149	Nepal Paints	White	2,800	Nepal	Nepal	No	Yes
NPL-153	Asian Paints	Blue	18	India	Nepal	Yes, No added Pb, Hg and Cr.	Yes

[1] Information on *Country of Brand Headquarters* and *Country Where Manufactured* is provided, but in some cases, the information could not be verified.

Appendix 3. Lead Concentration (ppm) by Color of New Enamel Decorative Paints Purchased in Nepal

Color	Number of Samples	Average lead concentration ppm	Number of Samples Above 90 ppm lead	Number of Samples Above 600 ppm lead	Number of Samples Above 10,000 ppm lead	Maximum ppm	Minimum ppm
White	19	1,400	12	10	0	6,100	11
Red	4	10,400	3	3	1	30,000	53
Black	4	2,100	3	2	0	6,700	32
Blue	5	2,700	4	4	0	6,200	18
Green	6	36,800	5	5	5	69,000	58
Brown	1	39	0	0	0	39	
Yellow	10	50,200	8	8	8	130,000	9

Report on
International Lead Poisoning Prevention Week of Actions, Oct 20-26, 2013
Nepal

Center for Public Health and Environmental Development (CEPHED)
Nayabasti, Imadol-5, Lalitpur,
Kathmandu, Nepal
Tel/Fax 977-1-5201786
Email: cephed04@yahoo.com

With cooperation and support from World Health Organization (WHO), Government of Nepal, Non-Governmental Organizations and media week long International Week of Action on Prevention of Lead Poisoning was celebrated from October 20-26th 2013.

Schedule for International Week of Action on Prevention of Lead Poisoning (October 20-26th 2013) was as follows:

Date	Action
Aug - Oct	The radio PSA on Lead Paint Elimination has been aired twice a day since August to October 2013.
20th Oct	Radio Talk Program with Mr. Ram Charitra Sah on Lead in Paint issues, Radio Sagarmatha, Hamro Sarokar Program by Radio Journalist Nabaraj Budathoki
20th Oct	Formal Opening of Week of Action on Prevention of Lead Poisoning through press meet and news coverage
21th Oct	Radio Talk Program with Mr, Ram Charitra Sah on Lead in Paint issues , Radio Sagarmatha 102.4 in Lukamari Program by Radio Journalist Ms Sambhavi Kharel
21st Oct.	Soil , Dust and Blood Sampling for lead analysis by LEADERS Nepal
22nd Oct	Interaction and Press Meet to Release Report entitled "Nepal's National Report on Study of Lead in New Household Enamel Paints "
22nd Oct	Radio, TV and News articles and news reporting's
23rd Oct	Massive Media reporting about CEPHED lead paint study report finding (5 five diff. news)
23rd Oct	High Level Policy Meeting
24th Oct	South East Asia Regional Conference on Lead Poisoning
25th Oct	South East Asia Regional Conference on Lead Poisoning
26th Oct	Exhibition and IEC Materials distribution Stall at Aster Academy and formal closing of Week of Action on Prevention of Lead Poisoning
29th Oct	LEAD in Paint TV program from NTV PLUS
31st Nov	Radio Talk Program on Lead in Paint from Capital FM Radio Station

Before the formal opening of Week-long International Lead Poisoning Prevention Week of Action, CEPHED already started its awareness campaign from the month of September itself. For the support of Week of Action, CEPHED launched a monthly program which was aired weekly via Radio Sagarmatha for 3 month (Sept.- Nov. 2013).

20th Oct: Formal Opening of Week of Action on Prevention of Lead Poisoning

On 20th October, Formal opening of International Lead Poisoning Prevention Week of Action was launched at Hotel Himalayan. Opening was hosted by Ministry of Science, Technology and Environment with the financial support from WHO and technical assistance from CEPHED.

Role of CEPHED during formal opening of International week was to produce Global Alliance to Eliminate Lead Paint (GAELP) Campaign materials IEC materials such as Brochure, Posters, Bookmarks and sticker which was to be disseminated throughout the campaign period and beyond.

A short report of Formal Opening

Organizing Agency:

Ministry of Science, Technology and Environment (MOSTE), Government of Nepal

Supporting Agencies:

World Health Organization (WHO), Country Office for Nepal

Center for Public Health and Environmental Development (CEPHED), Imadol-5, Lalitpur

Participants:

Officials from MOSTE, WHO, Leaders Nepal, CEPHED and Media Person from several national media house were present in launching program.

Program was inaugurated with opening speech from Mr. **Govinda Prasad Kharel**, Senior Divisional Engineer, MOSTE, Government of Nepal. He talked about the rationality of unit ppm along with the importance of week long program for awareness raising campaign. He mentioned about the lead poisoning and its sources, its impacts on human health and environment. He concluded his remarks by briefing about the Global Alliance to Eliminate Lead Paint (GAELP) and the way to become its official member.

Mr. Terrence Thompson, Senior Advisor, Public Health and Environment, WHO Country Office for Nepal, further highlighted about the global network such as Global Alliance to Lead Paint Elimination (GAELP) as the joint initiative of WHO and UNEP, its objective and activities which were going to be held during the week long program and its importance for the elimination of lead containing products from market.

Further he shed light on the Lead Poisoning issues. He stated, "*there is no safe level of lead exposure to health*" thus in order to ensure the health safety of children, the products having even a small amount of lead or lead containing compounds is must to be eradicated from market. He not only talked about the impact on children and pregnant women, but also brought some

examples on which sector lead poisoning impacts most. Due to lead exposure, performance of school children reduced cause of decrease in IQ level and slow neuro-developmental process.

Thus in order to assure the clean environment, behavioral change must be done. Regular washing practice should be done and if possible banning of lead from paint should be made mandatory as soon as possible.

Before opening for discussion, **Dr. Yubak Dhoj GC**, Director General, Department of Environment, MOSTE gave concluding speech. He mentioned about the toxicity of lead and its impact on human health and environment and role of government in order to ensure the safe environment from health perspective. He ended his speech by reading the statement on behalf of Ministry of Science, Technology and Environment (MOSTE).

Mr. Ram Charitra Sah, Executive Director of CEPHED finally describes the situation of heavily lead in paint, double standard and new enamel paint study result summary. With these he demanded for fast and stringent standard to be enacted. **Mr Dhiraj Pokhrel** shared about the dust and blood lead sampling, its results highlights and cases of occupational health hazards due to lead poisoning.

During the discussion session, participants were curious to know about the governmental further planning even after the week long campaigning activities, cost implications towards leaded and non-leaded paints and examples of lead poisoning casualties.

Mr. Ashok Bhurtyal, Representative from WHO Country office for Nepal coordinated and assisted for the translation procedure.

Reference Materials and IEC materials Produced and dissemination:

1. **Brochure**: A brochure contains the following information:
Introduction of lead and its toxicity; Impact of Lead on human health; Introduction of Lead containing Paint; Information on countries using leaded products; Relevant Policies, Rules and Regulations for control of lead containing products; Global Alliance to Eliminate Lead Paint; and Study on Paints found in Nepalese market.
2. **Bookmark**
3. **Sticker and Poster** containing information about lead poisoning and its impacts.

Outcomes:

Media Outreach:

- After the completion of Formal Launching of International Week of Actions, few media were enthusiastic about the program. They covered the program via

  Newspaper Article: 3(The Kathmandu Post, Rajdhani and The Himalayan Times)

Radio Interview: 2 (Radio Sagarmatha for program entitled Bal Sarokar and Hamro Sarokar by Radio Journo Nabaraj Budhathoki) with Mr. Ram Charitra Sah, Executive Director, CEPHED.

Figure 1 From Left: Mr. Govinda P. Kharel talking about the International Week of Action and Mr. Ram Charitra Sah talking about the activities to be held throughout the week and its importance

21 October 2013, Monday

सिसाको विषबाट बचाउन अन्तर्राष्ट्रिय सचेतना सप्ताह

Figure 2 International Prevention Week of Action on Lead Poisoning launched, 21 October 2013, Rajhdhani Daily

WHO paints deadly picture of exposure to lead

• Urges countries to save people from poisoning • Says children the most vulnerable lot

Why immediate action is needed

Figure 3 WHO Paints Deadly Picture of Exposure to Lead published in The Himalan Times Daily news paper dated 19 October 2013

Govt 'working' to set lead level in paints

POST REPORT KATHMANDU, OCT 20

THE Ministry of Science, Technology and Environment (MoSTE) is devising a legal provision to set a level of lead content in paints to address the health hazards resulting from excessive use of the metal. Speaking at a programme organised to mark the "International Lead Poisoning Prevention Week of Action," Senior Divisional Engineer Govinda Prasad Kharel said the ministry is working on a legal blueprint to reduce the use of lead in paints based on the earlier policy of discouraging its use in the products. "The government has launched awareness campaigns and is working to establish cost-efficient units to check the quality of paints," said Kharel. "Cheap paints are imported [upto Rs 30 per litre] in Nepal as a dump." The chemical can inflict damage to the brain and the nervous system, and cause neurologyrelated hazards and particularly harm young children and women with child bearing age. Terrence Thompson, Senior Environmental Health Advisor from the World Health Organization (WHO), said the chemical is bad enough to cause infertility both in men and women by infecting the semen and ovum, in a long run. "There is no safe level of exposure to lead. Technically, even a small amount of exposure to lead can be hazardous," he said. According to Yubak Dhoj GC from the Central Department of Environmental Science at Tribhuvan University, about 0.6 percent of all diseases in the world are caused by lead. "Ninety parts per million lead in enamel paints is defined as a standard level by the WHO, but India has set the standard at 1000 ppm," he said. "Nepal has no standard." Environment scientist Ram Charitra Sah said the same paint companies that produce lead-free paints in India produce lead-loaded paints in Nepal. Worldwide, 30 countries have already phased out the use of lead in paints. The Global Alliance to Eliminate Lead Paint, co-led by WHO and the United Nations Environment Programme, has set a target of 70 countries by 2015. The campaign, which was officially launched on Sunday in the Capital with the theme "lead-free kids for a healthy future" was organised by the MoSTE with support from the WHO and in coordination with the Global Alliance to Eliminate Lead Paint, and the Centre for Public Health and Environmental Development. **Lead can damage brain and nervous system, cause neurological hazards and harm children and women**

Figure 4 Government working to set lead level, 21st October 2013, The Kathmandu Post

http://epaper.ekantipur.com/ktpost/showtext.aspx?boxid=144438906&parentid=25795&issuedate=21102013

22nd October 2013

CEPHED organized the program "**Interaction and Press meet; Lead in New Enamel Paints in Nepal: Report and Posters Launching**" at Hotel Himalaya.

Participants:

High level officials from different sectors like Ministry of Environment Science and Technology (MOEST), EU delegates, WHO representative, Ministry of Industry, Department of Environment, Academic Institutes, Policy Makers, Doctors, representatives from INGO and NGO, Federation of Nepal Grills (metals) and Steel Fabricators, Consumer forums, Chemical Society, Nepal Bureau of Standard and Metrology, Boarding Schools Association and Journalist were present in the event.

Session:

Technical paper was presented by Mr. Ram Charitra Sah, Executive Director, CEPHED about Lead in Nepal's New Enamel Household Paints, National Report in Nepal. He started with the brief insight of organizational previous efforts on chemical safety related projects and recognition around the world. He talked about previous efforts and researches on Lead in Paints issue. He briefly talked about the Study Report starting from Materials and Methodology adopted during Survey, Sample Preparation and Laboratory Analysis. Also he mentioned about the priorities during sample purchase. With the information to Methods and Methodology, he jumped into Laboratory results which showed the lead contamination being high in majority of samples clearly indicating the need of government intervention on Paint Industry and enforcement of standard. During Result analysis, he mentioned about "Results of Lead in paints in Nepal, Lead content on color basis, Lead content based on brands, Lead content based on labeling, need of standard (90 ppm), Impact of Lead in Paint on health and environment and Best Enamel Paints Brands according to result". On basis of study findings, he recommended different sector to respond from their respective ministries and departments in order to secure healthy environment and provide health safety to children.

During the program, highly impacted person due to over exposure in lead contaminated paints was also invited to share his experience.

Part of his speech; "He appreciated the effort of different organizations on bringing this complete new issue on consumer mind and making them aware about the impact of chemical poisoning. During the start of his speech, he shared his experience of pain and suffering he was to undergo due to lead poisoning. He stated that, previously he was unaware of the fact that his illness was due to over exposure on lead.

He suffered from the respiratory problems i.e. expansion of lungs due to filling of air and heavy problem in breathing. For the cure of problems, he went to different renowned doctors inside the country and to India as well. Since nobody cares about the chemical poisoning issue in depth and seriousness, his problem was never identified. In recent days, such kind of health problem is already given a name. In his past, as his profession was painter, he was over exposed to paints cause of which he was always being in contact with toxic chemicals unintentionally. Later he got to realize about the presence of lead oxide and other toxic chemicals specially lead containing compounds on paints. Being a patient, he urge request to government as well as media sector to show respect to patient and bring awareness raising activities among painters so that future generation will be safe from similar problems he is suffering."

Reference Materials and IEC materials Produced and dissemination to all participants

1. **Brochure:** Brochure contains information about: Introduction of lead and its toxicity; Impact of Lead on human health; Introduction of Lead containing Paint; Information on countries using leaded products; Relevant Policies, Rules and Regulations for control of lead containing products; Global Alliance to Eliminate Lead Paint; and Study on Paints found in Nepalese market.
2. **Technical paper hands out-** Technical Paper hands out includes the information about the organization's previous efforts on chemical safety related projects and recognition around the world, previous efforts and researches on Lead in Paints issue, Materials and Methodology adopted during Survey, Sample Preparation and Laboratory Analysis, priorities during sample purchase, study findings, situation of Lead in paints in Nepal, Lead content on color basis, Lead content based on brands, Lead content based on labeling, need of standard (90 ppm), Impact of Lead in Paint on health and environment and Best Enamel Paints Brands according to result, conclusion and recommendation in order to secure healthy environment and provide health safety to children.
3. **Press Release:** Press release contains overview about the meeting in both Nepali and English language was provided to all the journalists participated into the meeting. Additional press release were emailed and faxed to the several media housed to maximize the outreach about the project.
4. **Study report:**
   A study report entitled "**Lead in New Enamel Paints in Nepal**" was launched during the program. Report includes the recent study findings along with recommendations and suggestions for the respective governmental authorities as well as consumer level.
5. **GAELP Brochure along with CEPHED study finding summaries:**
   A GAELP Brochure includes following content:
   Introduction of lead and its toxicity; Impact of Lead on human health; Introduction of Lead containing Paint; Information on countries using leaded products; Relevant Policies, Rules and Regulations for control of lead containing products; Global Alliance to

Eliminate Lead Paint; and Study on Lead in Enamel Paints found in Nepalese market (2013).

6. **GAELP Lead poisoning prevention week posters**

A GAELP Poster includes the information about Toxicity of Lead, impacts and number of casualties due to lead poisoning, Media of Lead Exposure and information to prevent lead exposure.

7. **GAELP Lead poisoning prevention week Book marks**
8. **GAELP Lead poisoning prevention week stickers**

Media Outreach:

Video Coverage: News from Mountain TV, Himshikar TV channel

Radio Coverage: Four radio programs on Lead issues before and after our national report released from Radio Sagarmatha, Radio Vani, Image FM etc.
Few local radio channel from Chitwan covered the event such as Community Radio Dhurvatara FM, Kalika FM, Synergy FM, Radio Tribeni, Radio Arpan

Magazine Coverage: Himal Khabarpatrika, Weekly magazine, 27th October- 3rd November, 2013 and Swasthya Magazine.

Newspaper Coverage:

Figure 5 Dangerous Lead in Paint, Annapurna Post, October 23

Figure 6 Lead containing Paints hazardous to Children's health, Himalaya Times (Nepali), Oct 23

Lead level in paints past global limit: Study

Industry secretary for setting up high-tech labs and committees for monitoring

The global standard for lead in paints is 90 parts per million, which, according to the report, is several times in Nepal

Dr Wagle in intensive care

BID FOR CLEANER REGION

Figure 7 Lead Level in paints past global limit, The Kathmandu Post, October 23

CAPITAL

Report on paints presents an alarming picture

• Shows life-threatening lead levels in leading brands • Exposed children face higher risks

Dangerous facts

Figure 8 Report on Paints presents an alarming Picture, The Himalayan Times, October 23

04 | nation

briefly

High lead level in paints

KATHMANDU (RSS) A new study released in the capital Tuesday has revealed that most of the paint companies in Nepal sell paint for household use that contains unsafe levels of lead that exceed recognised international standards. The report prepared by the Center for Public Health and Environmental Development states that exposure to even small amounts of lead can reduce a child's intelligence and school performance and can bring about behavioral problems. "The damage is lifelong and irreversible," Executive Director of Center Ram Charitra Sah said. The report was prepared after an examination of 49 samples of enamel paint from 21 paint companies manufactured or sold in paint stores in/at Kathmandu, Lalitpur, Pokhara and Butwal for home use.

Mangled remains of the jeep that m accident.

9 die...

Figure 9 High Lead Level in Paints, The Republica, October 23

Lead poisoning victim shares his woes

By A Staff Reporter

Kathmandu, Oct 23:

Dipak Kumar Thapaliya, a resident of Chitwan, has been suffering from irreversible health problems owing to severe damage in his lungs caused mainly by the lead poisoning.

He has been a victim of respiratory related problems for the last 23 years which was caused by lead poisoning.

Sharing his painful experience, he said he visited several hospitals in Bharatpur, Kathmandu and India for treatment of respiratory disorder. He had spent three years in painting occupation, which caused him the lifelong health problems. Physically, he becomes weak as his lungs were badly affected.

He still needs to visit hospital frequently and stay there for a month for treatment.

Thapaliya is one of many such victims who have been suffering from painful health disorder owing to unsafe enamel paint that contains lead.

There are many people like Thapaliya who are still engaged in painting occupation without knowing the presence of the poisonous lead in the paint.

A new study prepared by Center for Public Health and Environment Development (CEPHRD) demonstrated that most of the paint companies in Nepal including some major brands have been selling paint containing unsafe levels of lead exceeding the worldwide standards.

"Exposure to even small amounts of lead can reduce a child's intelligence and school performance and can cause behavioural problems, so high levels of lead in paint are proven issues of serious concerns not only for families, but the country as a whole. The ill effect of it can be lifelong and irreversible," Ram Charitra Sah, executive director of CEPHED, said.

Speaking at an interaction --Lead in new enamel paints in Nepal: Report and posters launching-- held in line with International Lead Poisoning Prevention Week Oct 20 to 26, Krishna Gyawali, secretary at the Ministry of Industry said that children are highly vulnerable to the use of lead contained paint. "So, the issue should be added in the textbooks in school about the lead contained in paints are harmful," he said.

Min Hamal, programme manager, Representative of the EU Delegation to Nepal, said that less lead contained paints should be imported in Nepal along with other four nations.

The CEPHED had conducted this study in coordination with the IPEN Asian Lead Paint Elimination Project, which is being implemented in seven different countries namely, India, Indonesia, Nepal, Philippines, Sri Lanka and Thailand with the total funding of EUR 1.4 million covered by the European Union over a period of 2012 to 2015.

CEPHED is implementing the project in Nepal.

The report has been produced after an examination of 49 samples of enamel paints from 21 paint companies manufactured and sold in Nepalese paint stores from Kathmandu, Lalitpur, Pokhara and Butwal for home use.

Brightly coloured paints like yellow, green, red and blue are most frequently contained high level of lead. It contained the highest lead concentrations with averages of 50,200 ppm, 36,800 ppm, 10,400ppm and 2700ppm respectively.

Lead above the proposed acceptable limit of 90ppm was detected in paint samples from 16 of the 21 brands included in the study, paint sample from 15 brands contained lead level above 600 ppm and paint sample of 12 brands contained lead levels even above 10,000 ppm, which is very dangerous level.

Figure 10 Lead Poisoning victim shared his woes, The Rising Nepal, Oct 25


22 Oct 2013, http://ehealthnewspaper.com/2013/10/22

घरायसी प्रयोजनका रङहरुले बालबालिका जोखिममा

- स्वास्थ्य खबरपत्रिका (काठमाण्डौ) कार्तिक ५ /

नेपाली बजारमा पाइने घरायसी प्रयोजनका रङहरुले बालबालिकाको स्वास्थ्य जोखिममा रहेको पाइएको छ ।

23rd October 2013: High Level Policy Meeting

Ministry of Science Technology and Environment organized the program "Policy Level Meeting" at Hotel Himalaya with the financial support from WHO. CEPHED was part of the program as participant, GAELP Campaign material production and distribution and reporting for the program.

Participants: High level officials from different sectors like Ministry of Environment Science

23rd October 2013: High Level Policy Meeting

Ministry of Science Technology and Environment organized the program "Policy Level Meeting" at Hotel Himalaya with the financial support from WHO. CEPHED was part of the program as participant, GAELP Campaign material production and distribution and reporting for the program.

Participants: High level officials from different sectors like Ministry of Environment Science

Figure 11 Few Still from High Level Policy Meeting

and Technology (MOEST), WHO representative, Ministry of Health and Population, Department of Environment, Department of Health Services (DOHS), Academic Institutes, Policy Makers, representatives from INGO and NGO

24th and 25th October

Mr. Ram Charitra Sah, Executive Director, CEPHED was invited to take part in South East Asia Regional Conference on Lead Poisoning. Conference was organized by Toxics Link in partnership with Centre for Occupational and Environmental health, Maulana Azad Medical College, Delhi and the Lata Medical Research Foundation, Nagpur.

Mr. Ram Charitra Sah shared information on issues related to lead paint elimination campaign in Nepal. He also share about the current scenario of lead containing paints in Nepalese market and gave brief insight of current study (2013). IEC materials produced for the same Prevention Week with the help from EU and WHO were displayed and disseminated during the conference.

Figure 12 (Top Left)CEPHED` IEC Materials displayed at SEA Regional Workshop on Lead Poisoning at New Delhi, India
Top Right and Pictures from Bottom half: Mr. Ram Charitra Sah presenting the current scenario of Nepal during program.

26th October 2013

CEPHED has approached to an school to publicize the lead paint issued through an Exhibition and IEC materials distribution stall at Aster Academy, Imadol, Lalitpur on the occasion of annual function at school premises. During the event, thousands of school children visited the stall and asked about the issue. Along with school children, parents and school teachers were more curious to know about the chemical poisoning and lead toxicity. From the stall, recently produced IEC materials like brochures, posters, stickers and bookmarks were widely disseminated.

Also in Imadole, Lalitpur, in the CEPHED office locality, all GAELP Campaign IEC materials (poster, brochures, book mark, and stickers) was delivered hand-hand basis for the awareness campaign by CEPHED.

Figure 13 Picture still from Stall "participants showing enthusiasm about understanding the lead poisoning issues and children's posing with Tosic Free Children Sticker."

Conclusion:

Throughout the International Lead Poisoning Prevention week of actions several programs were held by governmental as well as non-governmental organizations. Brochures, Posters, Stickers and Bookmarks were disseminated. Several newspaper articles were published along with the coverage from TV as well as Radio programs. From list of activities during Week of Actions, several commitments were made by governmental authorities as follows:

a. Government will formulate standard as early as possible either by NBSM or MOSTE.

b. Since there is lack of well-equipped laboratory inside the country, country will ask support from donor agencies for laboratory setup or select the best available laboratory for the product testing.

c. Government will develop the 3rd party certification mechanism for the accreditation of laboratory.

d. Government will develop monitoring mechanism for the effectiveness of implementation program.

e. Awareness campaign will be taken a massive level. i.e. country wide awareness campaign program will be launched with the collaboration of governmental agencies, PABSON, CEPHED and media sector.

Outcomes:

1. IEC materials (Study Report, Project Brochures, Technical paper hands out, press release) have been published and widely disseminated.

2. Awareness rose among the stakeholders especially for the concerned government agencies responsible for the standard formulation regarding lead in paint and massive users of the paints such as schools and contractors associations.

3. Wide media (electronic and print) coverage help to outreach the issues of lead in paint to the grass root level.

4. Commitment and Strong feeling to eliminate lead paint among the government agencies.

5. Direct contact with consumer level during stall increased curiosity among consumers and increased awareness level.

6. Networking and Alliance for the safe and healthy or toxic free environment was built among stakeholders and governmental authorities.

Achievement of Program:

All these week long activities especially from CEPHED's Interaction and Press Meet program for the report release which includes recent study findings dated 22nd October triggered the policy level discussion toward having regulatory framework. Recent study findings took the issue to new level enforcing governmental authorities to act immediately. On basis of those findings, Nepal Bureau of Standard and Metrology (NBSM), Ministry of Industry, Government of Nepal decided to form a technical committee for the standard formulation and policy framework to which CEPHED is nominated as a member. Technical Committee was formed under the chairmanship of Director General of NBSM. First meeting was held on 29th October 2013 which ended with conclusion to enforce and enact the standard of 90 ppm with the provision of 1 year transition period for Paint Industries to improve their product.

Greater public awareness has been achieved.

पेन्टमा लेडको मात्रा पहिचान गर्न प्रयोगशाला परीक्षणको लागि एटोमिक एब्जोर्पसन स्पेक्ट्रोस्कोपी (Atomic Absorption Spectroscopy-AAS) बाट परीक्षण गरिनु पर्दछ ।

पहिलो चरणको अध्ययन सन् २०१० मा नेपालमा यस केन्द्रले गरेको २८ नेपालमा पाईने सबै खाले पेन्टहरूमा लेडको मात्रा पाईएको पाईएको थियो । घर, फर्निचर तथा स्कूल, बेन्च, डेस्क आदि रङ्गाउने विभिन्न ईनामेल पेन्टहरूमा सबभन्दा कम ५४९ पिपिएम र सबैभन्दा बढी मात्रै ७७९६६४ पिपिएम पाईएको थियो । जुन अमेरीकी मापदण्ड ९० पिपिएम भन्दा भन्दै ८२२ गुणाले बढी रहेको थियो । यस अध्ययनमा सय प्रतिशत (१०० %) नेपाली गुणस्तर चिन्ह प्राप्त पेन्टहरूमा पनि अत्यधिक मात्रामा लेड पाईएको थियो ।

दोस्रो चरणको अध्ययन सन् २०११ मा यस केन्द्रले नेपाल लगायत अन्य दक्षिण एशियाका छिमेकी मुलुकहरूमा सञ्चालित बहुराष्ट्रिय पेन्ट कम्पनीहरूका पेन्टहरूमा गरेको अध्ययनले पनि अत्यधिक लेडयुक्त पेन्टहरू बढीमा २१३००० पिपिएमसम्म जुन अमेरिकी मापदण्ड भन्दा २३६२ गुणा बढी उच्च लेड भएको उत्पादन, निर्यात र बिक्री वितरण गरेको पाईएको थियो । साथै यी बहुराष्ट्रिय कम्पनीहरूले पेन्टहरूमा लेडको मात्रा सम्बन्धि दोहोरो मापदण्ड अनुसरण गरेको पनि पुष्टि भैसकेको छ । उनै कम्पनीले भारतमा करिब लेडमुक्त पेन्ट उत्पादन, बिक्रिवितरण गर्दछ भने नेपालमा अत्यधिक लेड मिसाईएको पेन्टहरू उत्पादन, निर्यात, बिक्रीवितरण गर्ने गरेको पाईयो । यसको प्रमुख कारण हामीकहाँ यसको नियन्त्रणको लागि आवश्यक ऐन, कानुन र मापदण्डहरू नहुनु र जिम्मेवार सरकारी निकायहरूबाट बजार अनुगमन नहुनु नै हो । साथै व्यवसाय वर्गहरूमा पनि जनताको स्वास्थ्य एवं वातावरण प्रतिको जिम्मेवारी बोध नहुनु पनि अर्को मुख्य कारण रहेको छ । तसर्थ ऐन कानुन र मापदण्डको अभावमा यी कम्पनीहरूले हाम्रो स्वास्थ्य र वातावरणमा खेलवाड गर्न पाइरहेका र दोहोरो मापदण्ड पनि अनुसरण गर्न पाइरहेका । यसतर्फ सम्बन्धित निकाय जस्तै वातावरण मन्त्रालय, उद्योग मन्त्रालय र स्वास्थ्य तथा जनसंख्या मन्त्रालयलगायत नापतौल तथा गुणस्तर विभागको ध्यान जानु अति जरुरी छ ।

पुनः तेस्रो चरणको अध्ययन सन् २०१३ मा European Union को सहयोगमा एशियाका सात देशहरूमा सञ्चालित Lead Paint Elimination नामक परियोजना अन्तर्गत नेपालका विभिन्न काठमाण्डौ, ललितपुर, बुटवल र पोखराका बजारहरूमा बिक्रि वितरणमा रहेको २५ वटा ब्राण्डका ५१ (४९ ईनामेल र २ डिस्टेम्पर) वटा पेन्टहरूका नमुना विश्वव्यापी रूपमा मान्यता प्राप्त ईटली स्थित Italian Institute for the Certification of Optical Products को प्रयोगशालामा परीक्षणकालागि पठाईएकोमा प्राप्त परिणाम अनुसार ७४ प्रतिशत (४९ मध्ये ३५ वटा) ईनामेल पेन्टहरूमा ९० पिपिएम भन्दा बढी लेड पाईएको छ र अधिकतम १,३०,००० पिपिएम रहेको छ । जुन अमेरीकी मापदण्ड ९० पिपिएम भन्दा १४४४ गुणाले बढी रहेको तर्फ सबैको पुनः ध्यानाकर्षण गराउन चाहन्छु ।

तर हालैको दिनहरूमा यी केही बहुराष्ट्रिय र राष्ट्रिय कम्पनीहरूले आफ्नो उत्पादन रङहरूमा लेडको मात्रा घटाउने गरेको कुरा सबैकालागि सुखद हो तसर्थ सबै नेपाली पेन्ट्स कम्पनीहरूले पनि लेड नमिसाईएको रङको उत्पादन, बिक्री वितरण तथा प्रयोग प्रबर्द्धन गर्न गराउनु पर्दछ भने सम्बन्धित सरकारी निकायमा खासगरी वातावरण मन्त्रालय र नेपाल गुणस्तर विभागले पेन्टहरूमा लेड सम्बन्धि मापदण्ड तत्कालिन बाध्य तोक्नु अति जरुरी भैसकेको छ । र स्वास्थ्य तथा जनसंख्या मन्त्रालयमार्फत स्वास्थ्यमा पर्ने असरहरूबारे अध्ययनगरी सत्य तथ्य तथ्यांक सार्वजनिक गर्नुपर्ने देखिन्छ । त्यसमा नेपाली तथा बहुराष्ट्रिय कम्पनीबाट उत्पादित पेन्टहरूमा लेडको मात्रा स्वेच्छिक रूपले घटाउनै लागुपर्ने आजको आवश्यकता रहेको छ र सबैको उत्तरदायित्व पनि रहेको छ । स्वेच्छिक रूपले लेड मुक्त गरेको कम्पनीहरूको उत्पादन सम्बन्धित सरकारी पक्षले जाँच गरी सत्य तथ्य खुलाइ ल्याउनु पर्दछ र अन्य सबैलाई पनि लेड नमिसाईएको पेन्टहरू मात्र आयात, उत्पादन, बिक्रि वितरण र बजारीकरण गर्न गराउन सबैबाट आवश्यक पहल हुनु पर्दछ ।

जनस्वास्थ्य तथा वातावरण प्रवर्द्धन केन्द्रले SSNC Sweden को आर्थिक तथा प्राविधिक सहयोगमा नेपालमा पाईने राष्ट्रिय, बहुराष्ट्रिय तथा अर्न्तराष्ट्रिय पेन्टहरूमा लेड (सिसा) सम्बन्धी अध्ययन, अनुसन्धान, जानकारीमूलक सामाग्रीहरू, रेडियो जिंगल, बुलेटिन उत्पादन एवं वितरण र प्रसारण गरी सबै सरोकारवालाहरूलाई यस समस्या समाधानकालागि आवश्यक पहल गर्दै आएको छ भने European Union को सहयोगमा यस सम्बन्धि थप अनुसन्धान, जनचेतना तथा क्षमता अभिवृद्धि, पेन्टमा लेडको मापदण्ड तोक्न, साना तथा मझौला पेन्ट्स कम्पनीहरूलाई, डिलर र रिटेलरहरूलाई लेडमुक्त गर्ने तर्फ आवश्यक प्राविधिक सहयोग गर्ने, यसलाई निरन्तर अनुगमन गर्ने बिदुद्द स्वायत संस्थालाई तेस्रो पक्षको रूपमा खडा गर्ने अवधारणा सहितका कार्यक्रमहरू कार्यान्वयन भैरहेको कुरा सहर्ष जानकारी गराउदै यसमा सरोकारवाला पनि सबै पेन्ट्स उत्पादक, बिक्रि वितरण तथा बजारीकरणमा लाग्नेहरूलाई अनुरोध गर्दछु । साथै यसका लागि सबैको सहयोग चाहने र खासगरी पेन्ट्स कम्पनीहरू एवं डिलरहरू मानव स्वास्थ्य तथा वातावरणप्रति अझ बढी जिम्मेवार भै बजारमा लेड नमिसाईएको पेन्टहरू आयात, उत्पादन, बिक्री वितरण र प्रयोग प्रवर्द्धन गर्ने गराउने तर्फ अझै प्रेरित हुने आशा गर्दछु ।

साथै विश्वव्यापी रूपमा नै लेडयुक्त पेन्टहरूको उन्मुलन गर्न सञ्चालित अभियानको यस केन्द्रबाट नेपालका सम्पूर्ण बालबालिकाको तर्फबाट एक्यबद्धता जनाउँदै अन्य पेन्टसँग सम्बन्धित सबैलाई पनि यस अभियानमा जुट्न आव्हान गर्दछौं । धन्यवाद ।

यदि तपाईंलाई लेडयुक्त रङ उन्मुलनको लागि विश्वव्यापी अभियानको बारेमा अरु थप जानकारी चाहिन्छ भने निम्न ठेगानाहरू website, email हेर्नुहोला ।

1. Global Alliance to Eliminate Lead Paint http://www.unep/org/hazardoussubstances/
2. Chemical Branch, Division of Technology, Industry and Economics, United Nations Environment Pregame http://www.unep.org/hazardoussubstances/LeadCadmium/
3. Public Health and Environment, World Health Organization, http://www.who.int/ipcs/assessment/public_health/lead/en/index.html
4. United State Environment Protection Agency, www.epa.gov/lead
5. Ministry of Scieoe, Technology and Environment (MOSTE), GON, Shinghdurbar, Kathmandu, Tel 01 4211641, 4211734
6. Ram Charitra Sah, Center for Public Health and Environmental Development

जनस्वास्थ्य तथा वातावरण प्रवर्द्धन केन्द्र
ईमाडोल ५, ललितपुर, काठमाण्डौ, नेपाल
CEPHED

सिसामुक्त बालबालिका
स्वस्थ्य भविष्यको लागि

सिसाको विषबाट बचावटका लागि अन्तरराष्ट्रिय सचेतना सप्ताह

रङ्गहरूबाट लिड (सिसा) उन्मूलन गरौं ।

अक्टोबर २० देखि २६, २०१३ सिसाबारे जानौं ।

लेडयुक्त पेन्ट (रङ्ग) उन्मुलनको लागि विश्वव्यापी संजाल

Global Alliance to Lead Paint Elimination

लेड (सिसा) युक्त पेन्ट किन हानिकारक हुन्छ ?

२० औं शताब्दीको शुरुवातमै धेरै जसो राष्ट्रहरुमा लेडयुक्त पेन्टको प्रयोगमा प्रतिबन्ध लगाउने कानुन बनिसकेको थियो । यस्तो नीति बनाएपनि आजकाल लेडयुक्त पेन्टको व्यापक प्रयोग भैरहेको बढ्दो उदाहरणको लागि सार्वजनिक भवनहरु जस्तै विद्यालय, हस्पिटल, साथ आफिस साथै बच्चाको खेलौना, खेल्ने सामग्री, गरगहना, फर्निचर, भाँडा लगाउने, खेल्ने ठाउँहरुमा समेत लेड प्रयोग गरिन्छ ।

लेड (सिसा) एक प्रकारको मानव स्वास्थ्यसँग सरोकार राख्ने रसायन हो जसले मानिसको स्वास्थ्यमा भयावह एवं स्थायी किसिमका नकारात्मक असर गर्दछ । गर्भावस्थामा पैदिने लेडको सम्पर्कमा रहेका बच्चाहरुमा विभिन्न किसिमका विर्षकालिन रोगहरु लाग्दछ । यसले बच्चाहरुलाई पर्यावरणमा बढी नकारात्मक प्रभावहरुको साथै वयस्कहरुमा पनि विशेष गरी कामदारलाई समेत असर गर्दछ ।

लेडबाट जनमानसमा पर्ने असर अति नै भयावह हुन्छ । लेडले विश्वको कुल रोग मध्य मात्रै ०.६% रोगहरु निम्त्याउछ फुन यसै मध्य धेरै जसो जस्ता विकासोन्मुख राष्ट्रहरुमा हुन्छ । बच्चा अवस्थामा लेडको सम्पर्कमा आउनाले प्रत्येक वर्ष लगभग ६००,००० नयाँ रोगका साथै बौद्धिक क्षमता असक्त भएका बच्चाहरुको संख्या बढ्दो छ । तसर्थ बच्चाहरुलाई लेडको प्रभाव बाट बचाउन जनस्वास्थ्य मूलक कार्यक्रमहरु प्रभावकारी हुन्छन् ।

बच्चाहरुलाई लेडको सम्पर्कमा आउनुबाट टाढा राख्नु जनस्वास्थ्यको मुख्य लक्ष्य हो र यसले दिगो विकासका लक्ष्यहरु हासिल गर्न महत्वपूर्ण योगदान पुर्याउनुको साथै संयुक्त राष्ट्रसंघीय सहस्राब्दि लक्ष्यपनि हासिलको साथै अन्तर्राष्ट्रिय रसायन व्यवस्थापनको नीतिगत अवधारणा (Strategic Approach to International Chemical Management) को पनि कार्यान्वयन गर्नको लागि सहयोग पुर्याउछ ।

लेडको सम्पर्क मुख्य गरी रङ्गको उत्पादन र प्रयोग गर्दा हुन्छ । लेडयुक्त पेन्ट र यसको धुलोले लेड र बच्चाहरुको सम्पर्कको प्रमुख श्रोत हो र लेड युक्त पेन्ट नहटाएसम्म बच्चाहरु लेडको सम्पर्कमा रहिरहन्छन् ।

पेन्टमा लेडको विकल्पमा प्रयोग हुने वस्तु धेरै वर्ष अघिनै आइसकेको छ । लेडयुक्त पेन्टहरु बजारमा आइसकेको छ जसको मूल्य उस्तै पर्दछ र उत्तिकै प्रभावकारी पनि छ । तसर्थ लेडयुक्त रङ्गहरु प्रयोग नगरेर लेडको प्रभावबाट बच्न सकिन्छ ।

लेडले स्वास्थ्यमा पार्ने असरहरु

लेड (सिसा) एक दिर्घकालिन वा संचित हुने खालको (cumulative) विष हो जसले शरीरका विभिन्न प्रकृयाहरु जस्तै स्नायु प्रणाली, रक्तकोषिका, स्वासप्रश्वास प्रणाली, पाचनप्रणाली, मुत्र प्रणाली, आदिमा असर गर्दछ । दिर्घकालिन लेडको असरले साधारणतया रक्तकोषिकामा असर गर्दछ जस्तै रक्त अल्पता, नसासम्बन्धि गडबडी, टाउको दुख्ने, चिडचिडापन, थकान महसुस हुने, मांसपेशीहरु दुख्ने, मस्तिष्कघात, ट्युमर, क्यान्सर जस्ता रोगहरु निम्त्याउदछ ।

धेरै मात्रामा लेडको सम्पर्कमा आउनाले तुरुन्तै प्रतिकूल असरहरु हुन्छ जस्तै पाचनप्रणालीमा खराबि, चोकमलाग्ने, पेट बटारिने, वाकवाक लाग्ने, वान्ताहुने, पेट दुख्ने, कलेजो र मलमुत्रनलीलाई खराबगर्ने, रक्तचाप बढ्ने, स्नायु प्रणालीमा खराबि, आराम नहुने, कारोग आदि जस्ता रोगहरुले अन्त अवस्थामा पुगी अन्त्यमा मृत्यु पनि हुन्छ ।

नवजात शिशु, बालबालिका र गर्भवती महिलाहरुलाई लेड (सिसा) ले निकै बढी प्रभाव पार्दछ । विशेषगरी बालबालिकाको बढ्दो बौद्धिक प्रक्रियामा हानी गर्दछ । रगतमा ५μg/dL मात्रा लेडले उनीहरुको सामान्यज्ञान र सक्षमताहरुमा कमी ल्याउँदछ । लेडले विद्यार्थीहरुको अवस्थाको अध्ययनहरु जस्तै एकाग्रता नहुने, उग्र व्यवहार निम्त्याउछ । अत्यधिक लेडले मुख्यत गर्भवती महिलाको गर्भपातहुने, सन्तान नहुने, कम सन्तान हुने, समय पुग्दा नै नभई बच्चा जन्मने र अपाङ्ग बालबालिका जन्मिने हुन्छ ।

बालबालिकाहरुको शरीरमा विभिन्न माध्यमबाट थोरै मात्रामा लेड प्रवेश गरेको छ भने पनि त्यसको असर तत्काल नदेखिए पनि विस्तारै हुन्छ र यस्ता असरहरुले उनीहरुको पठनपाठनमा कमजोरी देखिने, बानी व्यहोरामा परिवर्तन हुने र सक्षमताहरुमा ह्रास हुने गर्दछ । रगतमा लेडको कुनै सुरक्षित मात्रा हालसम्म परिभाषित गरिएको छैन । न साना बालबालिकाहरु लेडको सम्पर्कमा आउने धेरै माध्यमहरु हुन्छन् । पुरानो रङ्गको पत्री खस्दा, लेडयुक्त खेलौनाहरु मुखमा हालेर र लेड भएको माटो अथवा धुलोको सम्पर्कमा आएका बालबालिकाहरु नराम्री प्रभावित हुन्छन् ।
गर्भधारण गरेकी वा बच्चालाई दुध खुवाईरे गरेकी महिला व्यावसायिक वा वातावरणीय

लेडको सम्पर्कमा आएको छ भने आमामा यस्ता लक्षणहरु देखा नपरेपनि लेड नजन्मिएको बच्चासम्म पुगेर बच्चाको विकासमा असर पुर्याउँछ र जन्मिसकेपछि बच्चाको सिकाइ क्षमता कमी, व्यवहारमा परिवर्तन जस्ता लक्षणहरु देखाउँदछ ।

अत्यधिक मात्रामा लेडको सम्पर्कमा आईरहेका पुरुषमा विभिन्न किसिमको प्रजनन प्रणाली सम्बन्धि महत्वपूर्ण असर जस्तै शुक्राणु उत्पादन गर्ने, कमजोर दिर्घ, विर्यमा शुक्राणुको संख्यामा कमी आदि किसिमका शारीरिक समस्या हुनुका साथै नपुंसक समेत पारहिन्छ ।

लेडयुक्त पेन्ट (रङ्ग) के हो ?

लेडयुक्त पेन्ट भनेको रङ्गलाई अति चम्किलो बनाउन, धातुमा खिया लाग्न नदिन र रङ्गलाई छिटो सुकाउनको लागि लेडको कुनै खास यौगिक मिसाईएको पेन्टहरुलाई सम्झिनु पर्दछ । लेडको यौगिक जस्तै क्रोमेट वस्तुहरु जस्तै भर्निस, ल्याकरहरु, स्टेन, ईनामेल, ग्लेजहरु, र प्राईमर आदिमा पनि पाईन्छ ।

- लेड रङ्ग बनाउन प्रयोग गर्ने अरु खनिज पदार्थहरुमा पनि पाइन्छ त्यसैले रङ्ग उत्पादकले लेडको मात्राको यथार्थ अनुगमन गर्नुपर्दछ र सकेसम्म रङ्गमा लेडको मात्रा कम गर्नुपर्दछ ।
- विभिन्न साधारण प्रयोगशाला विश्लेषण प्रविधिबाट लेडको मात्रा एकिन तौलको आधारमा मापन गर्न सकिन्छ । यस्तो मापनलाई प्रविधिबाहेक रंगाएको सतह वा नमूनाको प्रकारमा पनि भर पर्दछ ।
- नजिकै बङ्गलादेशमा गरिएको सर्वेक्षण अनुसार नयाँ इनामेल पेन्टहरुमा पाइएको लेडको मात्रा ४८३ देखि ७३२५ पिपिएम थियो भने उक्त पेन्टहरुमा अधिकतम लेड २००,००० पिपिएम पाईएको थियो ।

पेन्टहरुमा लेडको सट्टा वैकल्पिक रसायनको उपयोग गर्न सकिनेकुरा निकै वर्ष अघिनै पत्ता लगाईसकेको छ । धेरै वर्ष अघिदेखि केहि देशहरुमा लेडयुक्त पेन्टहरु बजारमा आउनबाट रोक लगाएको कारण घर, फर्निचर तथा स्कुल रङ्गाउने रङ्गहरुमा लेडको मात्रा व्यापक रुपमै घटाउन सकिने देखिन्छ । विश्वका धेरै देशहरुका पेन्टहरुमा लेडको मात्रा ९० पिपिएम वा ६५ पिपिएम वा त्यो भन्दा पनि कम लेड पाईएको छ ।

रङ्ग उत्पादकहरुलाई जनताको स्वास्थ्य तथा व्यवसायी कामदारहरुको स्वास्थ्यमा लेडले पार्ने असरको बारेमा सचेत गराउन प्राथमिकता दिनु पर्दछ र लेडयुक्त पेन्टको उत्पादनको लागि प्रोत्साहन गर्न गर्नु भन्ने मात्र पेन्टबाट लेड उन्मूलन हुन्छ ।

रङ्गहरुमा लेड प्रयोग गर्ने देशहरु

लेडले स्वास्थ्यमा असर पार्ने कुरा बुझिसके र लेडयुक्त रङ्गको प्रतिबन्ध लगाउने नीति बिसौं शताब्दिको शुरुवातमा आए तापनि अत्यधिक मात्रामा लेडयुक्त रङ्गहरुको उत्पादन र बिक्रि वितरण धेरैजसो देशहरुमा भईरहेको छ ।

विकसित एवं विकासशिल मुलुकहरु देशहरुमा लेडयुक्त पेन्टहरुको प्रयोग केवल औद्योगिक क्षेत्रमामात्र गरेको अवधारणा एकदमै गलत हो ।

एक पटक रङ्गमा लेड प्रयोग भईसके पछि यसलाई हटाउनुको साथै यसले स्वास्थ्यमा पर्ने प्रभाव हटाउन पनि गाह्रो हुन्छ । रङ्ग लगाएको ठाउँ पुरानो हुँदै गएपछि त्यसबाट लेडयुक्त धुलो निस्कन्छ र यही धुलो नै बालबालिकाको लेडको सम्पर्कमा आउने मुख्य श्रोत हो । यसैगरी दिनहुँ घर सरसफाईको काममा लागेका महिलाहरु पनि लेडयुक्त धुलोको सम्पर्कमा आउँछन् । रङ्ग लगाउने कामदारहरु पनि लेडको असर को धेरै नजिकै कामगर्ने बढी जोखिममा परेका हुन्छन् ।

लेडयुक्त रङ्गको प्रयोगमा प्रतिबन्ध नलगाएसम्म यस्ता रङ्ग लगाउने घरहरुको संख्या बढ्दै जान्छ । मुख्यतया लेडयुक्त रङ्गको उत्पादन, बिक्री वितरण, आयात-निर्यातमा प्रतिबन्ध लगाउनुनै मुख्य प्रभावकारी हुन्छ ।

लेडयुक्त रङ्ग नियन्त्रणका लागि अनुशीलनका मुद्दाहरु

लेडयुक्त रङ्गको प्रयोगमा कमी ल्याउन र जनस्वास्थ्य एवं वातावरण स्वच्छ राख्न प्रभावकारी सरकारी ऐन कानून तथा नियम हुनु पर्छ । कुनैपनि ऐन, कानून नीति र नियमको मुख्य उद्देश्यहरु निम्नलिखित अनुसार हुनुपर्दछ ।

- लेडयुक्त रङ्गलाई पहिले परिभाषित गर्नु पर्छ । रङ्गमा भएको लेडको मात्रा पत्ता लगाउने प्रभावकारी विश्लेषणात्मक तरीका पनि उल्लेख हुनुपर्दछ ।
- उत्तरदायि तथा आधिकारिक सरकारी निकाय तोकिनुपर्दछ ।
- लेडयुक्त पेन्टको उत्पादन तथा प्रयोगमा रोक लगाउनुपर्दछ ।
- रङ्गका बट्टाहरुमा लेडसम्बन्धि उचीत लेबलिङ तथा लेडको धुलोले पार्ने असरको बारेमा उल्लेख हुनुपर्दछ ।
- लेडयुक्त रङ्ग, खेलौना र अन्य उपभोग्य वस्तुहरुको आयातमा प्रतिबन्ध लगाइनुपर्दछ ।
- लेडयुक्त रङ्गको बारेमा निम्न्न तेश्रो पक्ष वा व्यक्तिको भूमिका उल्लेख हुनुपर्दछ ।

लेडयुक्त रङ्ग उन्मूलनको लागि विश्वव्यापी सञ्जालको अभियान

लेडयुक्त रङ्ग उन्मूलनको लागि विश्वव्यापी सञ्जालको अभियान एउटा नयाँ शुरुवात हो जसले लेडयुक्त रङ्ग उन्मूलन गर्ने अन्तर्राष्ट्रिय लक्ष्यलाई प्राथमिकता दिएको छ ।

यस विश्वव्यापी लेडयुक्त रङ्ग उन्मूलन अभियानको लक्ष्य भनेको बालबालिका साथै कामदारहरुलाई पनि लेडयुक्त रङ्गको सम्पर्कमा आउन कमी ल्याउनु हो । यसको मुख्य लक्ष्य लेडयुक्त रङ्गको उत्पादन र बिक्रि वितरणमा रोक लगाउनु हो । तसर्थ लेडयुक्त रङ्ग उन्मूलनको लागि विश्वव्यापी अभियान एउटा महत्वपूर्ण माध्यम हो । जसले देशको दिगो विकास एवं सहभागी लक्ष्यको कार्यान्वयन गर्न र अन्तर्राष्ट्रिय रसायन व्यवस्थापन सम्मेलन (International Conference on Chemical Management -ICCM) को लागि सहयोग गर्दछ ।

विभिन्न निकाय जस्तै सरकारी, अन्तर्राष्ट्रिय गैरसरकारी संस्थाका उद्योग प्रतिनिधिहरु जस्तै नागरिक समाज, क्षेत्रीय निकाय, शैक्षिक संस्था, सञ्चार माध्यम, र निजि क्षेत्रका मानिसहरुलाई लेडयुक्त रङ्ग उन्मूलनको लागि प्रोत्साहन गरिन्छ ।

लेडयुक्त रङ्ग उन्मूलनको लागि विश्वव्यापी अभियानको विभिन्न पाँच वटा कार्य क्षेत्रहरु छन् : वातावरणीय क्षेत्र , स्वास्थ्य क्षेत्र, कामदारको स्वास्थ, नीति र नियम एवं र औद्योगिक सुधार ।

नेपाली बजारमा पाईने पेन्टहरुमा लेडको अध्ययन, परीक्षण र परिणामहरु

नेपालमा घर तथा फर्निचर रङ्गाउने परम्परा निकै पुरानो हो र रङ्गाउने विधि तथा रङ्गहरु पनि धरौहरीका छन् । जनस्वास्थ्य तथा वातावरण प्रवर्द्धन केन्द्रले गरेको तिन तिन पटकको अध्ययनको आधारमा नेपालमा पाईने पेन्टहरुमा अत्यधिक लेड पाईएको कुरा ठोकुवा गर्न सकिन्छ ।

सिसाको विषबाट बचावटका लागि
अन्तर्राष्ट्रिय सचेतना सप्ताह
रङ्गहरूबाट लिड (सिसा) उन्मूलन गरौं ।
अक्टोबर २० देखि २६, २०१३

सिसामुक्त
बालबालिका
स्वस्थ्य भविष्यका लागि

सिसा बारे जानौं ।

- सिसा (लेड) शरीरमा जम्मा हुँदै जाने एक प्रकारको विष हो जुन हाम्रो शरीरका विभिन्न शारीरिक प्रणालीहरूमा र विशेषगरी बालबालिकाको स्वास्थ्यमा नकारात्मक असर पर्दछ ।
- कलिलो उमेरमा सिसाको सम्पर्कमा आउनाले प्रत्येक वर्ष लगभग ६,००,००० बालबालिकाहरू बौद्धिक अशक्तता सम्बन्धी नयाँ रोगबाट ग्रसित हुने गर्दछन् ।
- सिसा को सम्पर्कमा आउनाले प्रत्येक वर्ष लगभग १,४३,००० व्यक्तिहरूको मृत्यु हुन्छ र यसबाट विकासोन्मुख मुलुकहरूमा जोखिम बढी हुने गर्दछ ।
- सिसा हाम्रो शरीरमा प्रवेश गरिसकेपछि मस्तिष्क, कलेजो, मृगौला र हड्डीमा जम्मा भै बस्दछ । यो दाँत र हड्डामा भएर जम्मा हुन्छ र समय बित्दै जाँदा यसको मात्रा बढ्दै जान्छ । सामान्यतया रगतमा सिसाको मापनबाट शरीरमा सिसा पर भएको थाहा पाउन सकिन्छ ।
- मानव शरीरमा सिसाको कति पनि मात्रालाई सुरक्षित मान्न सकिंदैन् ।
- सिसा विषाक्ततालाई पूर्णतया रोकन सकिन्छ ।

http://www.who.int/ipcs/assessment/public_health/pb_campaign/en/index.html

CEPHED

World Health Organization
Country Office for Nepal

सिसायूक्त रङ्ग तपाई र तपाईको बालबालिकाको निम्ति हानिकारक हुनसक्दछ ।

सिसा (Lead) को असरबाट बच्ने उपायहरु

बालबालिकाको शरीरमा सिसा (Lead) भए नभएको नियमित परीक्षण गराउनुहोस् ।

यदि तपाई विद्यालय, घर, तथा फर्निचर रङ्गाउँदै हुनुहुन्छ भने कहिले पनि सिसा (Lead) नमिसाइएको रङ्गहरुमात्र प्रयोग गर्नुहोस् ।

स्वस्थ बालबालीका र स्वच्छ वातावरणको लागि कहिले पनि हानिकारक परिमाणमा सिसा (Lead) मिसाइएको रङ्ग प्रयोग नगर्नुका साथै सकभर सिसा (Lead) नमिसाइएको रङ्गहरुमात्र प्रयोग गरौं ।

विस्तृत जानकारीको लागि सम्पर्क ठेगाना

नेपाल सरकार
शिक्षा मन्त्रालय
शिक्षा विभाग, सानोठिमी भक्तपुर
फोन नं. ००९७७ १ ६६३१०७४, ६६३३०२९
फ्याक्स: ००९७७ १ ६६३३९५८

Private and Boarding Schools' Organisation, Nepal
Tel :00977-01-4420683, 4431586,
Fax : 4438404

CENTER FOR PUBLIC HEALTH AND ENVIRONMENTAL DEVELOPMENT
Nayabasti, Imadol-5, Lalitpur
Kathmandu, Nepal
Tel/Fax:00977-1-5201786
Email: cephed04@yahoo.com

विद्यालयका भौतिक पूर्वाधारहरु (विद्यालय भवन, फर्निचर, खेलौना आदि) मा रङ्गरोगन गर्दा हानिकारक सिसा (LEAD) नमिसाईएको रङ्गहरुमात्र प्रयोग गरौ ।

USE LEAD FREE PRODUCTS ONLY

सिसा (LEAD) को प्रयोग के-के मा हुन्छ ?

[illegible]

सिसा (LEAD) को असरसम्बन्धी केही तथ्यहरु

विश्व स्वास्थ्य संगठन (World Health Organization) अनुसार सिसा (Lead) को असरबाट हरेक वर्ष करिब ६००,००० बालबालिकाहरु बौद्धिक विकाससम्बन्धी समस्याबाट [illegible] । [illegible] विकासोन्मुख राष्ट्रहरुमा यसको असर अत्यधिक देखिएको छ ।
(WHO/UNEP, GAELP Brochure)

सिसा (Lead) को स्रोतहरु

- [illegible]
- [illegible]
- [illegible]
- [illegible]

सिसा (LEAD) को प्रभावबाट बच्न अभिभावक तथा शिक्षकले ध्यान दिनुपर्ने कुराहरु

- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

सिसा (LEAD) बाट हुने मुख्य असरहरु

- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

LeadFree KIDS for a Healthy Future

[illegible] PABSON [illegible] सिसा (Lead) [illegible] ।

विस्तृत जानकारीको लागि सम्पर्क ठेगाना

नेपाल सरकार
शिक्षा मन्त्रालय
शिक्षा विभाग, सानोठिमी भक्तपुर
[illegible]

Private and Boarding Schools' Organization, Nepal
Tel :00977-01-4420663, 4431588,
Fax : 4438404

CEPHED
CENTER FOR PUBLIC HEALTH AND ENVIRONMENTAL DEVELOPMENT
Nayabasti, Imadol-5, Lalitpur
Kathmandu, Nepal
Tel/Fax:00977-1-5201786
Email: cephed04@yahoo.com

REPORT ON

INTERACTION AND PRESS MEET

Lead in New Enamel Paints in Nepal: Report and Posters Launching

October 22, 2013

VENUE: HOTEL HIMALAYA, KUPANDOLE, LALITPUR, NEPAL

Center for Public Health and Environmental Development (CEPHED)

Nayabasti, Imadol-5, Lalitpur,

Kathmandu, Nepal

Tel/Fax 977-1-5201786

Email: cephed04@yahoo.com

INTERACTION AND PRESS MEET
Lead in New Enamel Paints in Nepal: Report and Posters Launching
October 22, 2013
VENUE: Hotel Himalaya, Kupandole, Lalitpur, Nepal

Organizing Agency:

Center for Public Health and Environmental Development (CEPHED), Nayabasti, Imadol-5, Lalitpur, Kathmandu, Nepal

Supporting Agencies:

The Project is funded by European Union (EU) and Implemented by International POPs Elimination Network (IPEN).This project is being implemented in seven different countries (Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand)

IPEN is an international network with 700 participating organizations working in 116 countries that promote safe chemical policies and practices aimed at protecting human health and environment.

Participants:

High level officials from different sectors like Ministry of Environment Science and Technology (MOEST), EU delegation to Nepal, WHO representative, Ministry of Industry, Department of Environment, Academic Institutes, Policy Makers, Doctors, representatives from INGO and NGO, Federation of Grills (metals) and Steel Fabricators Nepal, Consumer forums, Chemical Society, Nepal Bureau of Standard and Metrology, Boarding Schools Association and Journalist were present in the meeting.

Resource Person:

Mr. Ram Charitra Sah, Executive Director, Center for Public Health and Environmental Development (CEPHED)/ Program Advisor to EU SWITCH ASIA Lead Paint Elimination Project

Invitees:

Chief Guest:

Mr. Krishna Gyawali, Secretary, Ministry of Industry, Government of Nepal

Special Guest:

Mr. Eric Ugarte, Visibility and Communication Program Manager, EU Delegation to Nepal

Mr. Mim Hamal, EU, Program Manager, EU Delegation to Nepal

Chair Person:

Mr. Mohan Katuwal, President, Federation of Grill and Steel Fabricator Nepal

Guest:

Dr. Lavdeo Awasthi, Director General, Department of Education, Ministry of Education, Government of Nepal.

Mr. Ram Adhar Sah, Director General, Nepal Bureau of Standard and Metrology

Mrs. Radhika Aryal, Deputy Director General, Department of Environment

Mr. Lachhe Bdr. KC, Vice President, Private Boarding School's Organization Nepal (PABSON)

Mr. Terrence Thompson, Senior Technical Advisor, Environmental Health, WHO Country Office for Nepal.

Key Invitees:

Mr. Dipak Thapaliya, Painter, Affected person from Lead from paints.

Introduction:

Lead is a heavy metal which is primarily used in paint for pigment, driers, durability and other uses. Lead causes severe impacts on health, especially on children's health. Unfortunately, even though there is wide recognition of this problem, which led to a number of bans of lead in paint across North America and Western Europe over the past 70 years, even today paints are sold with added lead in developing countries and countries with economies in transition. This is an avoidable problem, and Nepal is not too far from this problem. Therefore, with the aim to raise widespread awareness among business entrepreneurs, consumers and policy makers about the adverse human health impacts of lead-based decorative paints, particularly on the health of children under six years old, CEPHED organize this meeting with the aim of sharing in details about the CEPHED new study finding from lead in new decorative enamel paints supported by EU through IPEN for implementing EU SWITCH ASIA Lead Paint Elimination Project. Based on these interaction programs, coordination and collaboration with different institutions and individuals were established towards smooth implementation of the program and envision the formation of required regulatory framework.

thousands of activities to take place and to urge countries to take further action to eliminate lead paint.

Lead exposure accounts for 143 000 deaths per year with the highest burden in developing regions. Childhood lead exposure is estimated to contribute to 600,000 new cases of children with intellectual disabilities every year. Overall, 99% of children affected by high exposure to lead live in low and middle income countries.

The toxicity of lead has been known for centuries. It is only in the last few decades that the profound effects of even low-level exposure to lead on the development of young children and on the long-term health of adults has been recognised. We now believe that there is no safe threshold of exposure to lead. It is a problem that demands urgent action. At high levels of exposure, lead damages the brain and central nervous system to cause coma, convulsions and even death. Children who survive such poisoning are often left with intellectual impairment and behavioral disruption.

At lower levels of exposure, that cause no obvious symptoms and that previously were considered safe, lead is now known to produce a spectrum of injury across multiple body systems. In particular lead affects brain development in children, resulting in reduced IQ, behavioral changes such as shortening of attention span and increased antisocial behavior, and reduced educational attainment. These effects are believed to be irreversible. Adults are at increased risk of kidney disease and raised blood pressure.

The good news is that lead poisoning is entirely preventable through a range of measures to restrict uses of lead and to monitor and manage exposures. The phasing out of leaded gasoline has already reduced lead exposure at the population level. Some important sources of lead still remain, however, and one of these is lead paint. We are calling on every country to ensure national actions to eliminate lead paint. In some of the countries where there have been public information campaigns about lead paint, several paint manufacturers have taken voluntary action to stop adding lead compounds to their decorative paints.

WHO is working to bolster efforts to eliminate lead paint. Globally about 30 countries have already phased out the use of lead paint. The Global Alliance to Eliminate Lead Paint, co-led by WHO and UNEP, has set a goal to eliminate lead paint by 2020, with a target of 70 countries by 2015. This can be done. In doing so we are paving the way to protecting our health, our children and safeguarding our environment."

STUDY REPORT and POSTERs RELEASE

Figure 3 From Left: Mr. Krishna Gyawali releasing study report, Mr. Lakchhe Bdr. KC and Mr. Lavdeo Awasthi releasing poster relat school children's health and Mr. Dipak Thapaliya and Mr. Eric Ugarte releasing poster for general public

TECHNICAL SESSION

The technical paper was presented by Mr. Ram Charitra Sah, Executive Director, CEPHED about **Lead in Nepal**'s **New Enamel Household Paints, National Report in Nepal**. He started with the brief insight of organizational previous efforts on chemical safety related projects and recognition around the world. He talked about previous efforts and researches on Lead in Paints issue.

He briefly talked about the Study Report starting from Materials and Methodology adopted during Survey, Sample Preparation and Laboratory Analysis. Also he mentioned about the priorities during sample purchase.

Figure 5 Mr. Ram Charitra Sah presenting about the present scenario of lead toxicity and recent findings

With the information to Materials and Methodology, he share the laboratory results which showed the lead contamination being high in majority of samples clearly indicating the need of government intervention on Paint Industry and enforcement of standard. During Result analysis, he mentioned about "Results of Lead in paints in Nepal, Lead content on color basis, Lead content based on brands, Lead content based on labeling, and then proposed standard of 90 ppm with the clear justification behind this particular limit. He also shed light on Impact of Lead in Paint on health and environment and Best Enamel Paints Brands ranking according to the average lead content in the respective paint brands". On the basis of study findings, he finally conclude his presentation by highlighting the high level of leaded paint prevalence and very high economic as well as health losses in Nepal and then recommended different sector to respond

from their respective ministries and departments in order to ensure healthy environment and provide health safety to children.

Mr. Dipak Thapaliya, Painter, Highly Impacted person due to over exposure on Lead contaminated Paints:

Figure 4 Mr. Dipak Thapaliya talking about his health problem due to frequent exposure on Lead contaminated Paint

He appreciated the effort of different organizations on bringing this complete new issue on consumer mind and making them aware about the impact of chemical poisoning. During the start of his speech, he shared his experience of pain and suffering he had undergone due to lead poisoning from his painting occupation. He stated that, previously he was unaware of the fact that his illness was due to over exposure on lead.

He suffered from the respiratory problems i.e. expansion of lungs due to filling of air and heavy problem in breathing. For the treatment of problems, he went to different renowned doctors inside the country and to India as well. Since nobody cares about the chemical poisoning issue in depth and seriousness, his problem was never identified. In recent days, such kind of health problem is already declared as Neumothorax.

In his past, as his profession was painter, he was over exposed to lead because of which he was always being in contact with toxic chemicals unintentionally. Later he got to realize about the presence of lead oxide and other toxic chemicals specially lead containing compounds on paints.

Being a patient, he urge and request to government as well as media sector to show respect to patient and bring awareness raising activities among painters so that future generation will be safe from similar problems he is suffering. **He also demanded for the strong regulation and standard for lead in Paint.**

Mr. Lakchhe Bdr. KC, Vice President, PABSON

Figure 7 Mr. Lakchhe Bdr KC talking about lead poisoning issue

He appreciated the effort of CEPHED on bringing this critical yet neglected issue on board and creating environment for the discussion and further awareness campaign. Without any sort of hesitation, he accepted his negligence on this issue even having science background. He further appreciated the effort of CEPHED on being successful to bring PABSON and DOE on same board for this campaign. Being at respected position of school organization, he committed to bring awareness campaign throughout the country via PABSON countrywide school network through their board to encourage boarding schools to adopt environment friendly product. Since there is not much of difference in monetary aspect, he committed from PABSON side for further awareness campaign on schools.

He suggested NBSM to bring standard as soon as possible. Since NS marked given by NBSM means a product with quality and trustworthy, NBSM must take a step in order to assure consumer safety.

Mr. Mim Hamal, European Union Delegation to Nepal

He gave insight of program and involvement of EU in this project as funding agency. For the effective implementation of project he appraised the coordination between NGO and governmental agencies especially between CEPHED and DoE. Further he suggested taking this program in country wide scale for would be the perfect implementation of project.

Figure 8 Mr. Mim Hamal talking about current scenario of Lead containing product in Nepal

He hoped for the availability of lead free paint in market in near future and formulation of policies to control the import of toxic products. He committed from EU side to continue the support for the ongoing as well as any similar kind of projects in coming days too.

Mrs. Radhika Acharya, Deputy Director General, Department of Environment

She appreciated the effort of CEPEHD for not only bringing this important issue on media's eye but also being successful on having collaboration with governmental agencies.

Figure 9 Mrs. Radhika Acharya presenting her views on Lead in Paint issue

In previous statements and technical presentation from Mr. Sah, it was accepted about the absence of specific standards, rules, regulations and policies to control the production of lead containing paints. But she mentioned about the existence of the Environment Protection Act (EPA) and Environment Protection Regulation (EPR) as broader regulatory framework that can be used for regulating lead in paints.

She gave information about the governmental initiatives taken to address lead in paint problem. She informed about the formation of technical committee by Ministry of Science Technology and Environment which includes technical experts from civil societies such as CEPHED and LEADERS Nepal and governmental agencies.

Later she stated about the role of department in further cases. Role of department is to have regular monitoring after the standard being in place by MOSTE. She urged every other agency i.e. governmental as well as private to cooperate and create such environment from where it will be easy for government to adopt environment friendly technologies, impose laws and regulations on toxic products and finally create awareness campaign.

Mr. Terrence Thompson, Senior Technical Advisor Environmental Health, WHO, Country Office for Nepal

He started his speech by congratulating CEPHED for the successful for bringing out such an important study report and made available to all by releasing today. He acknowledged the effort of EU and Governmental

Figure 10 Mr. Terrence Thompson stating his opinion on Lead Poisoning

agencies to this endeavor. He talked about the lead poisoning issues, its impact on health as well as environment especially focusing on child exposure to lead containing products.

He expressed his dissatisfaction towards pre-media coverage on issues that have given more focus on the death scale due to lead. Few days back, media focused more about the number of death due to lead poisoning. But as per him, media should highlight the health and productivity losses of the children due to lead, and show much concern on how to keep child away from lead exposure instead just reporting about the number of casualties. Due to lead exposure, it got high chances of having negative impact on child such as defect on neurodevelopment, respiratory problems, skin irritation, school performance, economic earning potential losses etc. which further imposed problem on learning opportunities and reduce IQ level of children. Since children are backbone and strong pillar of country, media must highlight and give priority to the issue in such way from which consumer get aware about the lead poisoning and its impact on human health especially the children.

Figure 11 Mr. Ram Adhar Sah talking about role of NBSM in standard formulation

Mr. Ram Adhar Sah, Director General, Nepal Bureau of Standard and Metrology (NBSM)

He appreciated and acknowledged the effort of CEPHED, Governmental agencies, PABSON, EU, WHO and media. He thanked CEPHED for updating the market situation on lead contaminated paints and hoped for the usefulness of current study result for the standard formulation procedure by NBSM.

Without any hesitation, he stated the delayed attempt of NBSM for the standard formulation in past. Though NBSM tried to impose standard for the NS marked paints, industry were found to obstruct the procedure bringing different kind of conflicting issues on board such as open boarder issue and difference in standard around the globe. But he promised to take it forward to the logical end of having standard in place soon.

He spoke about the necessity of mandatory standard and order from PM Office to have mandatory standard. In addition, he also spoke about the shameful situation of failing to have voluntary standard when situation is demanding the mandatory standard. Since NBSM is already into ISO standard now its high time to think about health and environmental impact rather than focusing on industrial benefit.

In study result, it was seen that even NS marked product contained high Lead. As per Mr. Sah, since NBSM never talked about the lead contain while issuing NS mark to products, it got nothing to do with lead presence in products. He committed to have robust market monitoring after standard in near future from MOSTE for lead in paint will be in place.

Mrs Ang Dawa Sherpa, Former Constitution Assembly (Parliamentary) Member

She talked about the effort of government during her tenure as CA member for the conservation of environment. She accepted the fact of lacking number of study findings, reports, researches and discussions. It's not that they didn't try to do anything; yeah they tried to improve the consumer safety in products via proper labeling approach.

She expressed her views regarding the ways to bring efficient mechanism for consumer safety. For that purpose first, country must develop control mechanism and go for implementation level. In her view, government must not ignore or neglect the products which might create indirect impacts. Government must keep in mind "**Ignorance is Bliss**". For the effective monitoring mechanism, government must focuses on policy formulation and their implementation.

She gave example of monasteries where bright paints are used. As a research finding suggests that brightness is due to mixture of toxic chemicals, awareness campaign must not neglect areas like monasteries. She talked about the impact of lead poisoning especially on child. All the materials are found to be focused towards child but what about adult?. She suggested researcher to highlight the issues and impact on adult too.

Mr. Krishna Gyawali, Secretary, Ministry of Industry

He appreciated the effort put on by CEPHED team for the successful launching of Interaction and Report release program for the recent study findings. He hoped for the usefulness of study findings for the awareness level and standard formulation procedure.

He expressed his satisfaction towards the content of report specifically recommendation section where different specific suggestions and recommendations are addressed according to specific agencies based on the nature and responsibility of the respective agencies. Since DoE and PABSON is coordinating with CEPHED team during poster production and campaigning stage, he hoped for the successful implementation of objectives i.e. countrywide awareness campaign.

Figure 12 Mr. Krishna Gyawali talking about the role of government in Policy formulation and implementation

He requested media sector to prioritize the issue from children perspective cause of fact "children are major sufferer of lead poisoning cases". Along with media sector, he also requested consumer, private sector as well as governmental agencies to do what they could do to make children toxic free. Since death casualties might not be that much of high in number, priorities should be given towards number of impacted human and children to raise the awareness level i.e. potential hazard should be kept in mind.

From governmental section, government must formulate policies, rules and regulations. Since policy formulation procedure is in developing stage, more and more challenges and new issues might bring obstacle in near future. So to avoid those circumstances and stretching process of policy formulation, it should be complete as early as possible.

For the government this issue might be small since there are not much of evidence of lead poisoning cases and death casualties leading negligence on same issue. But the point not to forget is its impact is huge since its directly associated with children health and country future. So government should rather think from future perspective and take action as quick as possible.

According to Environment Protection Act and Environment Protection Regulation 1996/97 no one can emit or release toxic chemical to environment beyond the prescribed standard. But it doesn't specifically mentioned about lead paint standard. Since Lead poisoning issue is critical in terms of impact, it should

either be eliminated or reduced from the production phase. Since this issue won't come on MOSTE's priority, NBSM must take lead in order to bring some achievement. For the Product labeling and Quality assurance, NBSM should take needed technical assistance from ISO and WHO expert and enact the stringent standard at earliest possible with the coordination of all relevant stakeholders.

Also NBSM must think about the enforceability and practicality during standard formulation procedure. Rather being one sided and considering the world context, policy formulation procedure must consider neighboring country's aspect and own situation. After policy formulation procedure being completed, development of required infrastructures such as standard testing facilities, accreditation bodies and then only monitoring of the implementation level should be regularly done. Along with these requirements in place, a 3rd party certification system can be envisioned.

He ended his speech by congratulating the CEPHED team and warned governmental agencies to keep track of past and present study findings with his high commitment to bring the required regulatory framework and monitoring mechanism in place at earliest possible and also directed to his officials to immediately act up on.

At the end of Program, **Mr. Mohan Katuwal**, the chairperson of the Interaction Program officially declared the closing of program with few suggestions to governmental agencies as well as media sector along with acknowledgement to CEPHED team for the successful launching of study report release program.

Reference Materials and IEC materials Produced and dissemination to all participants

1. **Project Posters and Brochures:** A comprehensive project brochures contain the information about; Poster to school children, Poster to general public, brochure including about global initiative of UNEP and WHO as Global Alliance to Eliminate Lead Paints (GAELP) and finally about the project implementing organizations CEPHED and IPEN details with contact details for further information and Report entitled "**Lead in New Enamel Paints in Nepal**".
2. **Technical paper hands out**- Technical Paper hands out includes the information about the organization's previous efforts on chemical safety related projects and recognition around the world, previous efforts and researches on Lead in Paints issue, Materials and Methodology adopted during Survey, Sample Preparation and Laboratory Analysis, priorities during sample purchase, study findings, situation of Lead in paints in Nepal, Lead content on color basis, Lead content based on brands, Lead content based on labeling, need of standard (90 ppm), Impact of Lead in Paint on health and environment and Best Enamel Paints Brands according to result, conclusion and recommendation in order to secure healthy environment and provide health safety to children.
3. **Press Release:** Press release contains overview about the meeting in both Nepali and English language was provided to all the journalists participated into the meeting.

Additional press release were emailed and faxed to the several media housed to maximize the outreach about the project.

4. **Study report:**
   A study report entitled "**Lead in New Enamel Paints in Nepal"** was launched during the program. Report includes the recent study findings along with recommendations and suggestions for the respective governmental authorities as well as consumer level.
5. **GAELP Brochure along with CEPHED study finding summaries:**
   A GAELP Brochure includes following content:
   Introduction of lead and its toxicity; Impact of Lead on human health; Introduction of Lead containing Paint; Information on countries using leaded products; Relevant Policies, Rules and Regulations for control of lead containing products; Global Alliance to Eliminate Lead Paint; and Study on Lead in Enamel Paints found in Nepalese market (2013).
6. **GAELP Lead poisoning prevention week posters**
   A GAELP Poster includes the information about Toxicity of Lead, impacts and number of casualties due to lead poisoning, Media of Lead Exposure and information to prevent lead exposure.
7. **GAELP Lead poisoning prevention week Book marks**
8. **GAELP Lead poisoning prevention week stickers**

Conclusion

From this interaction and press meet program, the entire participant including high level officials from different authorized departments and ministries unanimously reached to the following agreements:

PABSON:

a. PABSON will lead the country wide awareness campaign with the cooperation from CEPHED and Department of Environment and initiate the process of inclusion of heavy metals and chemicals issues in the school and college curricula.

European Union (EU):

a. Will continue supporting similar kind of projects both financially and technically in coming days too.

Department of Environment:

a. Enforce the implementation procedure of Standard once it get formulated and develop monitoring mechanism for the effectiveness.

World Health Organization (WHO):

a. Will continue working on Public Health sector.

Nepal Bureau of Standard and Metrology (NBSM):

a. Will form technical committee for the mandatory standard formulation for lead in paint in order to assure the quality and healthy product in NS marked paints.

Consumer Forum:

a. Continue bringing awareness campaign via Forum activities and take this critical issue countrywide.

Department of Education:

a. Will coordinate with CEPHED for the countrywide awareness campaign via DoE's district level programs.

b. Initiate the process of inclusion of heavy metals and chemicals issues in the school and college curricula.

To summarize the program, major points which were committed are as follows:

a. Government will formulate standard as early as possible either by NBSM or MOSTE.

b. Since there is lack of well-equipped laboratory inside the country, country will ask support from donor agencies for laboratory setup or select the best available laboratory for the product testing.

c. Will develop the 3rd party certification mechanism through the formation of accreditation bodies.

d. Will develop monitoring mechanism for the effectiveness of implementation program.

e. Awareness campaign will be taken a massive level. i.e. country wide awareness campaign program will be launched with the collaboration of governmental agencies, PABSON, CEPHED and media sector.

Recommendation and Suggestions:

From the floor discussion and speech from guests, several recommendations and suggestions were noted which are as follows:

a. Since painters are unknown about the lead presence in paint, awareness activities must be taken to ground level.

b. For the assurance of quality product, NBSM must take a step forward during NS mark provision.

c. Every sector such as Governmental Authorities, Civil Societies, Consumer and Medias must cooperate with each other for creation of healthy environment.

d. Standard formulation procedure should be immediately started and other relevant rules, regulations and policies must be updated.

e. Rather than sticking to number of death casualties, media must look after the wide-range impact of lead poisoning especially potential hazards due to lead poisoning.

f. Since all of the programs are focused towards children sector, adulthood exposure shouldn't be ignored.

Achievement of Program:

All these week long activities especially from CEPHED's Interaction and Press Meet program for the report release which includes recent study findings dated 22nd October triggered the policy level discussion toward having regulatory framework. Recent study findings took the issue to new level enforcing governmental authorities to act immediately. On basis of those findings, Nepal Bureau of Standard and Metrology (NBSM), Ministry of Industry, Government of Nepal decided to form a technical committee for the standard formulation and policy framework to which CEPHED is nominated as a member. Technical Committee was formed under the chairmanship of Director General of NBSM. First meeting was held on 29th October 2013 which ended with conclusion to enforce and enact the standard of 90 ppm with the provision of 1 year transition period for Paint Industries to improve their product.

Greater public awareness has been achieved.

Media Coverage

Wide media coverage were achieved

Video Coverage: News from Mountain TV, Himshikar TV channel, NTV Plus TV program etc.

Radio Coverage: Four radio programs on Lead issues before and after our national report released from Radio Sagarmatha, Radio Vani, Image FM etc.

Few local radio channel from Chitwan covered the event such as Community Radio Dhurvatara FM, Kalika FM, Synergy FM, Radio Tribeni, Radio Arpan

Newspaper Coverage:

आठ पाकिस्तानीसँग अध्यागमनमा बयान

Figure 13 Dangerous Lead in Paint, Annapurna Post, October 23

Lead level in paints past global limit: Study

Industry secretary for setting up high-tech labs and committees for monitoring

The global standard for lead in paints is 90 parts per million, which, according to the report, is several times in Nepal

Dr Wagle in intensive care

BID FOR CLEANER REGION

Figure 15 Lead Level in paints past global limit, The Kathmandu Post, October 23

CAPITAL

Report on paints presents an alarming picture

• Shows life-threatening lead levels in leading brands • Exposed children face higher risks

Dangerous facts

Figure 16 Report on Paints presents an alarming Picture, The Himalayan Times, October 23

04 | nation |

briefly

High lead level in paints

KATHMANDU (ANI): A new study released in the capital Sunday has revealed that most of the paint companies in Nepal sell paint for household use that contains unsafe levels of lead that exceed recognised international standards. The report prepared by the Center for Public Health and Environmental Development states that exposure to even small amounts of lead can reduce a child's intelligence and school performance and can cause behavioural problems. "The damage is lifelong and irreversible," Executive Director of Center Ram Charitra Sah said. The report was prepared after an examination of 49 samples of enamel paint from 21 paint companies manufactured and sold in Nepalese paint stores from Kathmandu, Lalitpur, Pokhara and Butwal for home use.

9 die...

Figure 17 High Lead Level in Paints, The Republica, October 23

www.gorkhapatraonline.com

Lead poisoning victim shares his woes

By A Staff Reporter

Kathmandu, Oct 23:

Dipak Kumar Thapaliya, a resident of Chitwan, has been suffering from irreversible health problems owing to severe damage in his lungs caused mainly by the lead poisoning.

He has been a victim of respiratory related problems for the last 23 years which was caused by lead poisoning.

Sharing his painful experience, he said he visited several hospitals in Bharatapur, Kathmandu and India for treatment of respiratory disorder. He had spent three years in painting occupation, which caused him the lifelong health problems. Physically, he becomes weak as his lungs were badly affected.

He still needs to visit hospital frequently and stay there for a month for treatment.

Thapaliya is one of many such victims who have been suffering from painful health disorder owing to unsafe enamel paint that contains lead.

There are many people like Thapaliya who are still engaged in painting occupation without knowing the presence of the poisonous lead in the paint.

A new study prepared by Center for Public Health and Environment Development (CEPHRD) demonstrated that most of the paint companies in Nepalincluding some major brands have been selling paint containing unsafe levels of lead exceeding the worldwide standards.

"Exposure to even small amounts of lead can reduce a child's intelligence and school performance and can cause behavioural problems, so high levels of lead in paint are proven issues of serious concerns not only for families, but the country as a whole. The ill effect of it can be lifelong and irreversible," Ram Charitra Sah, executive director of CEPHED, said.

Speaking at an interaction --Lead in new enamel paints in Nepal: Report and posters launching-- held in line with International Lead Poisoning Prevention Week Oct 20 to 26, Krishna Gyawali, secretary at the Ministry of Industry said that children are highly vulnerable to the use of lead contained paint. "So, the issue should be added in the textbooks in school about the lead contained in paints are harmful," he said.

Min Hamal, programme manager, Representative of the EU Delegation to Nepal, said that less lead contained paints should be imported in Nepal along with other four nations.

The CEPHED had conducted this study in coordination with the IPEN Asian Lead Paint Elimination Project, which is being implemented in seven different countries namely, India, Indonesia, Nepal, Philippines, Sri Lanka and Thailand with the total funding of EUR 1.4 million covered by the European Union over a period of 2012 to 2015.

CEPHED is implementing the project in Nepal.

The report has been produced after an examination of 49 samples of enamel paints from 21 paint companies manufactured and sold in Nepalese paint stores from Kathmandu, Lalitpur, Pokhara and Butwal for home use.

Brightly coloured paints like yellow, green, red and blue are most frequently contained high level of lead. It contained the highest lead concentrations with averages of 50,200 ppm, 36,800 ppm, 10,400ppm and 2700ppm respectively.

Lead above the proposed acceptable limit of 90ppm was detected in paint samples from 16 of the 21 brands included in the study, paint sample from 15 brands contained lead level above 600 ppm and paint sample of 12 brands contained lead levels even above 10,000 ppm, which is very dangerous level.

Figure 18 Lead Poisoning victim shared his woes, The Rising Nepal, Oct 25

राजधानी 21 October 2013, Monday (Kartika 5, Nepal)

सिसाको विषबाट बचाउन अन्तर्राष्ट्रिय सचेतना सप्ताह

Figure 19 International Prevention Week of Action on Lead Poisoning launched, 21 October 2013, Rajhdhani Daily

WHO paints deadly picture of exposure to lead

• Urges countries to save people from poisoning • Says children the most vulnerable lot

Why immediate action is needed

Figure 20 WHO Paints Deadly Picture of Exposure to Lead published in The Himalan Times Daily news paper dated 19 October 2013

HE KATHMANDU POST

Govt 'working' to set lead level in paints

POST REPORT KATHMANDU, OCT 20

THE Ministry of Science, Technology and Environment (MoSTE) is devising a legal provision to set a level of lead content in paints to address the health hazards resulting from excessive use of the metal. Speaking at a programme organised to mark the "International Lead Poisoning Prevention Week of Action," Senior Divisional Engineer Govinda Prasad Khanal said the ministry is working on a legal blueprint to reduce the use of lead in paints based on the earlier policy of discouraging its use in the products. "The government has launched awareness campaigns and is working to establish cost-efficient units to check the quality of paints," said Khanal. "Cheap paints are imported [upto Rs 50 per litre] in Nepal as a dump." The chemical can inflict damage to the brain and the nervous system, and cause neurodevelopmental hazards and particularly harm young children and women with child bearing age. Terrence Thompson, Senior Environmental Health Advisor from the World Health Organization (WHO), said the chemical is bad enough to cause infertility both in men and women by infecting the semen and ovum, in a long run. "There is no safe level of exposure to lead. Technically, even a small amount of exposure to lead can be hazardous," he said. According to Yubak Dhoj GC from the Central Department of Environmental Science at Tribhuvan University, about 0.6 percent of all diseases in the world are caused by lead. "Ninety parts per million lead in enamel paints is defined as a standard level by the WHO, but India has set the standard at 1000 ppm," he said. "Nepal has no standard." Environment scientist Ram Chandra Sah said the same paint companies that produce lead-free paints in India produce lead-loaded paints in Nepal. Worldwide, 30 countries have already phased out the use of lead in paints. The Global Alliance to Eliminate Lead Paint, co-led by WHO and the United Nations Environment Programme, has set a target of 70 countries by 2015. The campaign, which was officially launched on Sunday in the Capital with the theme "lead-free kids for a healthy future" was organised by the MoSTE with support from the WHO and in coordination with the Global Alliance to Eliminate Lead Paint, and the Centre for Public Health and Environmental Development. **Lead can damage brain and nervous system, cause neurological hazards and harm children and women**

Figure 21 Government working to set lead level, 21st October 2013, The Kathmandu Post

http://epaper.ekantipur.com/ktpost/showtext.aspx?boxid=144438906&parentid=25795&issuedate=21102013

घरायसी पयोजनका रङहरुले बालबालिका जोखिममा

Figure 22. Children under threats from use of household paint in The Health News online October 22, 2013

Program Schedule

Date: 22 October 2013, Hotel Himalaya, Lalitpur
(In line with the International Lead Poisoning Prevention Week, Oct. 20-26, 2013)

Title	INTERACTION AND PRESS MEET on Lead in New Enamel Paints in Nepal, Report and Poster: Launching
10:00 to 11:00	Registration and Tea Snacks
11:00 to 11:30	Report and Poster Launching Program
	Invitation of Guest in Podium Chair: Mr. Mohan Katuwal Chief Guests: Mr. Krishna Gyawali, Secretary, Ministry of Industry, Special Invitees: 1. Dr. Laydeo Awasthi, Director General, Department of Education 2. Mr. Ram Adhar Sah, Director General & Bishwa Babu Pudasaini DDG, NBSM 3. Mrs. Radhika Aryal, Deputy Director General, Department of Environment 4. Mr. Mimi Hamal, Program Manager, Representative, EU Delegation to Nepal, 5. Lakshya Bdr. KC, Vice President, PABSON 6. Mrs. Ang Dawa Sherpa, Former CA Members

	7. Mr. Terrance Thompson, WHO Country Office for Nepal, 8. Mrs. Binnala Khanal, General Secretary, Consumer Forum 9. Other Ministries, Department, Private and Individual concerned representatives from OPMCM, MOSTE, MOHP, MOE, MOWCSW ĵ. KEY INVITEES: **Mr. Dipak Thapaliya,** Painter, Heavily Exposed and Affected person from LEAD IN PAINTS. Ram Charitra Sah, Executive Director, CEPHED
	Welcome Speech and Program Highlights- Mr. Ram Charitra Sah, Executive Director, CEPHED. Message from WHO, Dr. Maria Neira, Director, Department of Public Health and Environment , http://www.who.int/phe/features/lead_video_statement/en/index.html
11:30 to 11:35	Launching of 'National Report , Lead in Nepal's New Enamel Household Paints , A recent study of CEPHED under EU IPEN SWITCH ASIA Project on Eliminate Lead Paints by Chief Guest Mr. Krishna Gayawali, Secretary, MOI and Remark
11:35 to 11:40	2. **Launching of Poster about Children and School** : Jointly by Representative of Department of Education and PABSON 3. **Launching of Poster about LEAD:** Jointly Mr. Dipak Thapaliya and Gopal Bamkota Affected Painter from lead in Paint 4. Testimony from **Heavily Exposed & Victim of LEAD IN PAINT: Mr. Dipak Thapaliya and Mr. Gopal Bamkota**
11:40 to 12:00	Presentation of Study Finding of " **Lead in Nepal's New Enamel Household Paints, National Report**" Mr. Ram Charitra Sah, Executive Director/Environment Scientist, CEPHED
12:00 to 12:10	Key Remarks: EU Delegation to Nepal
12:10 to 12:30	Final Remarks Speech from Guests and Chief Guest
12:30 to 1:00	Q/A and PRESS RELEASE
	Lunch and Departure

For Immediate Release

22nd October 2013

CEPHED

EU-funded study shows dangerous lead levels in household paints in Nepal

Lead exposure is serious risk to children's health

(Kathmandu) A new study released today demonstrates that most of the paint companies in Nepal, including some major brands, sell paint for household use that contains unsafe levels of lead that exceed recognized worldwide standards.

The report was prepared by the Center for Public Health and Environmental Development (CEPHED) and released through organizing an "Interaction and Press Meet on Lead in New Enamel paints in Nepal: Report and Posters Launching" held in line with International Lead Poisoning Prevention Week, Oct. 20-26, 2013).

"Exposure to even small amounts of lead can reduce a child's intelligence and school performance; and can also cause behavioral problems, so high levels of lead in paint are proven cause for serious concern not only for families, but the country as a whole. This damage is lifelong and irreversible" said Ram Charitra Sah, Executive Director, CEPHED Nepal.

The study released today was conducted in coordination with the IPEN Asian Lead Paint Elimination Project, which is being implemented in seven different countries (Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand) with a total funding of EUR 1.4 million (approx. 200 million NPR) covered by the European Union over a period of 2012-2015. CEPHED is implementing the project in Nepal.

The report has been produced after an examination of 49 samples of enamel paint from 21 paint companies manufactured or sold in Nepalese paint stores from Kathmandu, Lalitpur, Pokhara and Butwal for home use. The key findings include:

- *71% of samples analyzed, including some market leaders' brands, contained more than a proposed limit of 90 ppm of lead and would not be permitted for sale in the United States,*
- *Brightly colored paints (green, blue, red and yellow) most frequently contained high lead levels.* Yellow, green, red and blue paints contained the highest lead concentrations with averages of 50,200 ppm, 36,800, 10,400 ppm and 2700 respectively.
- *Lead above the proposed acceptable limit of 90 ppm was detected in paint samples from 16 of the 21 brands included in the study, paint samples from 15 brands contained lead level above 600 ppm and paint samples of 12 brands contained lead levels even above 10,000 ppm very dangerous level.*
- *Most of the NS marked Paint contains maximum level of lead contamination whereas paint with label "NO ADDED LEAD" were found to have low level of lead contamination. Majority (92%) of paint with "NO ADDED LEAD" marked paint have lead contamination lower than 60 ppm.*

"Though lead levels have decreased some from previous studies conducted in 2010 and 2011, dangerously high lead levels are still found in Nepalese paints," Mr. Sah said.

Painted surfaces get worse because of time and use, and consequently lead from the paint contaminates household dust and soils surrounding the home. Children ingest lead from contaminated dusts and soils during normal hand to mouth behavior. Damage to children's intelligence and mental development occurs, even when there are no obvious or clinical signs of lead poisoning. The World Health Organization (WHO) has said that "there appears to be no threshold level below which lead causes no injury to the developing human brain." The European Safety Authority Panel on Contaminants in the Food Chain has concluded "there is no evidence for a threshold for critical lead-induced effects."

The report recommended the government to immediately take a number of steps to protect Nepalese children from lead exposure. These include:

- Enact a mandatory standard for lead in household paints of 90 parts per million (ppm)
- Provide technical support to small and medium sized paint manufacturers to phase out lead from their paint production
- Periodically analyze paint to determine lead content in Nepalese paints
- Raise awareness about hazard of lead paints

- Hold advocacy campaigns for required policy, regulation, third party certification and eco-labeling.

Additional information

According to 2011 census data, 9.5 million Nepalese children (about 36 % of total population) are at their early age of development. Most childhood education facilities, including benches and desks are painted in bright colors, and, therefore, put children at high risk of lead exposure.

Mr. Sah also noted the high economic losses to the country from lead exposure citing a recent study (New York University, 2013) which found the estimated lifetime economic lost to Nepal of lead exposure equals 1.5 million US dollars or 4% of the Nepal's GDP, an amount that is most likely much higher than the total revenue from lead related business as a whole in Nepal. The study identified many different sources of lead exposure in children with lead paint as one "major source".

IPEN Asian Lead Paint Elimination Project is working to eliminate lead in paint worldwide and raise widespread awareness among business entrepreneurs and consumers about the adverse human health impacts of lead-based decorative paints, particularly on the health of children under six years old. Seven Asian countries are participating in the project: Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka and Thailand.

IPEN is an international network with 700 participating organizations working in 116 countries that promote safe chemical policies and practices aimed at protecting human health and environment.

CEPHED is organization around Nepal working since 9 years in the area of chemical management, current and obsolete pesticides, healthcare waste, Persistent Organic Pollutants (POPs), heavy metals like mercury, lead and cadmium to bring the experience from the ground to the concerned authorities' notice that leads to more meaningful and sustainable solutions for healthy living and environment safety.

For more information, please contact:

Mr. Ram Charitra Sah, Executive Director, CEPHED,

Tel/Fax 00977-1-5201786, Mob: 00977- 9803047621, Email: cephed04@yahoo.com

Er. Manish Thapa, Policy and Advocacy Officer, CEPHED,

Tel/Fax: 00977-1-5201786, Mob: 00977- 9843141850, Email: grambhir2046@gmail.com

EUROPEAN UNION

IPEN
a toxics-free future

सिसा (LEAD) तपाई र तपाईको बालबालिकाको निम्ति हानिकारक हुनसक्दछ ।

LeadFree KIDS for a Healthy Future

सिसा (LEAD) को असरबाट बच्ने उपायहरु

बालबालिकाको शरीरमा सिसा (LEAD) भए नभएको नियमित परीक्षण गराउनुहोस् ।

यदि तपाई विद्यालय, घर, तथा फर्निचर रङ्गाउदै हुनुहुन्छ भने जहिले पनि सिसा (LEAD) नमिसाईएको रङ्गहरुमात्र प्रयोग गर्नुहोस् ।

स्वस्थ बालबालीका र स्वच्छ वातावरणको लागि जहिले पनि हानीकारक परीमाणमा सिसा (LEAD) मिसाइएको रङ्ग प्रयोग नगर्नाका साथै सकभर सिसा (LEAD) नमिसाइएको रङ्गहरुमात्र प्रयोग गरौं ।

विस्तृत जानकारीको लागि सम्पर्क ठेगाना

नेपाल सरकार
शिक्षा मन्त्रालय
शिक्षा विभाग, सानोठिमी भक्तपुर
फोन नं. +५७७-१-६६३१५७४, ६६३३०२७
फ्याक्स: +५७७-१-६६३३६२४

निजी तथा आवासिय विद्यालय अर्गनाइजेशन नेपाल
डिल्लीबजार, काठमाडौं, नेपाल
फोन: +५७७-१-४४२०६६३, ४४३१५८६
फ्याक्स: +५७७-१-४४३८४०४
ईमेल: pabsoncc@gmail.com

CEPHED
जनस्वास्थ्य तथा वातावरण प्रवर्द्धन केन्द्र
ईमाडोल ५, ललितपुर, काठमाण्डौ, नेपाल
फोन र फ्याक्स: +५७७-१-५२०१७८६
मोबाईल: +५७७-९८०३०४७६२१
ईमेल: cephed04@yahoo.com

Toxics Link´s Submission

NATIONAL REPORT

LEAD IN INDIA'S ENAMEL HOUSEHOLD PAINT

Toxics Link

IPEN
a toxics-free future

ABBREVIATIONS

AES	Atomic emission spectrophotometer
BIS	Bureau of Indian Standards
CDC	Centers for Disease Control and Prevention
ELPAT	Environmental Lead Proficiency Analytical Testing
EU	European Union
GAELP	Global Alliance to Eliminate Lead Paint
ICCM	International Conference on Chemicals Management
ICP	Inductively Coupled Plasma
IPEN	International POP's Elimination Network
NGO	Non Government Organization
Pb	Lead
PPM	Parts Per Million
SAICM	Strategic Approach to International Chemicals Management
SMEs	small and medium-size enterprises
SSNC	Society for Nature Conservation
UNEP	United Nations Environmental Programme
WHO	World Health Organization

TABLE OF CONTENTS

FOREWORD

This report presents new data on the lead content of household paints for sale on the Indian market. This is the fourth time that the paints have been analyzed to determine their lead content in India. Toxics Link conducted previous studies in 2007, 2009 and 2011, which included a total of 104 samples of paints including 62 enamel and 42 latex. The objective of the study carried out in year 2007 was to determine the total concentration of lead (Pb) in decorative paints of all types viz., plastic (water based or latex) and enamel (oil based) intended for residential uses. The objective of the study carried out in 2009 was to determine the total lead (Pb) concentration in new decorative paints available in various developing countries in the world in order to know the amount of lead being used in developing countries. In this study the paint samples were collected from 10 countries other than India. The objective of the study carried out in 2011 was to test the hypothesis that decorative household paints available in South Asia had varied levels of lead content across identical brands in different countries. In this study some common paint brands samples were collected from India, Bangladesh and Nepal.

This current report presents detailed findings from this most recent round of analysing household paints for lead content and compares these results with results from previous studies. We also review national policy frameworks that are in place to ban or restrict the national manufacture, import, sale and use of leaded household paints and discuss how changes in lead levels in paints that may have resulted from changes in that regulatory framework since the last study. The report also presents background information on why the use of household paints with high lead content is a source of serious concern, especially to children's health and it proposes recommendations for taking action to protect children and others from lead in paint.

The report is prepared by Toxics Link (The Just Environment Charitable Trust) with the support and assistance from the Asian Lead Paint Elimination Project. The Asian Lead Paint Elimination Project has been established to eliminate lead in paint and raise widespread awareness among business entrepreneurs and

consumers about the adverse human health impacts of lead-based decorative paints, particularly on the health of children under six years old.

The Asian Lead Paint Elimination Project is being implemented by IPEN over a period of three years in seven countries (Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand) with funding from the European Union (EU) totaling 1.4 million. While this publication has been produced with the assistance of the European Union, the contents of the publication are the sole responsibility of Toxics Link together with IPEN, and can in no way be taken to reflect the views of the European Union. In addition, this document was produced with financial contributions from the Swedish Environment Protection Agency, Swedish public development co-operation aid through the Swedish Society for Nature Conservation, SSNC. The views herein shall not necessarily be taken to reflect the official opinion of any of these donors, including SSNC or its donors.

Ravi Agarwal
Director, Toxics Link

EXECUTIVE SUMMARY

In November 2012 to February 2013, Toxics Link purchased 250 cans of oil-based (enamel) house paints from stores in and around Delhi, Haryana, Uttar Pradesh, Karnataka, Andhra Pradesh, Maharashtra, Gujarat and West Bengal and sent samples of the paints to be analyzed for lead content by a laboratory in Italy accredited by ACCREDIA – the Italian Accreditation System. The lab participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) proficiency testing program operated by the American Industrial Hygiene Association under a system created by the US Environmental Protection Agency. Paints from 147 paint brands were analyzed. The results were compared with previous studies of lead levels in enamel household paints conducted in 2007(published as a peer-reviewed study in 2008), 2009 and 2011 by Toxics Link, as well as two other peer-reviewed studies published in 2006 and 2009.

SUMMARY OF RESULTS OF ENAMEL PAINT LEAD LEVELS IN INDIA

Year	No. of paints analyzed	% paints with lead levels over 90 ppm	% paints with lead levels over 600 ppm	% paints with lead levels over 10,000 ppm	Highest level detected (ppm)
2013	250	90	83	44	1,60,000
2011	09[1]	22	22	22	34,700
2009	22[2]	36	36	36	49,600
2009	72[3]	88	82	47	2,17,000
2007	31[4]	84	84	84	1,40,000
2006	17[5]	100	100	59	1,87,000

Comparison of results from paint analyzes performed in 2013, 2011, 2009, 2007 and 2006.

1 Double Standard: InvesƟgaƟng Lead (Pb) Content in Leading Enamel Paint Brands in South Asia (2011), Toxics Link, New Delhi (India).

2 Global Study: Lead in New DecoraΘve Paints (2009), Toxics Link-IPEN. (hΣp://www.ipen.org/ipenweb/documents/ work%20documents/global_paintstudy.pdf
3 Clark C. S., Rampal K. G., Thuppil V., Roda S. M., Succop P., Menrath M., Chen C. K., Adebamowo E. O., Agbede O. A., Sridhar M. C., Adebamowo C. A., Zakaria Y., El-SaŌy A., Shinde R. J., Jiefei Yu. Lead levels in new enamel household paints from Asia, Africa and South America (2009), Environmental Research. 109: 930-936.
4 A Brush with Toxics: An InvesΘgaΘon on Lead in Household Paints in India, (2007) Toxics Link, New Delhi, (India). (Later published as Kumar A and GoΣesfeld P (2008) Lead Content in Household Paint in India, Science of the Total Environment 407:333-337).
5 Clark, C. S., K. G. Rampal, V. Thuppil, C. K. Chen, R Clark, S. Roda. The lead content of currently available new residen-Θal paint in several Asian countries (2006) Environmental Research. 102, 9-12.

Major paint manufacturers consistently added lead to decorative paints till 2007, with only one paint manufacturer claiming it produced paints without adding lead. Today all major paint manufacturers are slowly phasing out lead (not adding) from decorative paints. This phase out of lead in paint by India's market leaders is an indicator of the impact of Toxic Link's (www.toxicslink.org) lead in paint campaign which began in 2006. Toxics Link's earliest research on this issue in 2007 reported 1,40,000 parts per million (ppm) of lead as highest value detected in Indian decorative paint. The study in 2009 reported 49,600 ppm of lead as highest value and another study in 2011 also showed 34,700 ppm of lead as highest value. However in each study conducted during 2007 to 2013, gradual reduction of lead levels has been observed in the paints produced by major manufacturers.

Dangerous levels of lead were mainly found in household decorative paints manufactured by the small and medium-size enterprises (SMEs). This suggests that paint already used in children´s environments constitute a route of exposure of lead to the young and most vulnerable population. The extent of lead use by SMEs is largely unknown, but this study indicates that many SMEs are adding high amounts of lead in their enamel decorative paints.

Study Results

A total of 250 cans of new enamel decorative paint from 147 brands were purchased in India and analyzed for total lead content. The sample results are expressed as parts per million (ppm), based on the dry weight of the digested sample.

The average lead concentration of all analyzed paints was found to be 22,800 ppm. Very high lead concentrations above 10,000 ppm were found in 111 of the 250 paints analyzed; 96 of the paints had concentrations between 10,000 and 600 ppm, and 17 of the paints had concentrations between 600 and 90 ppm. None of these paints would qualify for sale on the international market. The remaining 26 paints had low (below 90 ppm) lead concentrations. The highest concentration detected was 1,60,000 ppm. The highest concentration was observed in yellow

colored paint sample.

Lead Concentration by Brand - Lead was detected between 12 and 1,60,000 ppm in 246 paints from 144 brands. Overall, the paint produced by SMEs had very high lead concentrations in their paints. A total of 111 paints from 103 brands contained dangerously high lead levels above 10,000 ppm.

Only 16 paints from 13 brands produced by SMEs and 10 paints from 5 brands produced by major paint manufacturers were found to contain lead at levels less than 90 ppm. Four paints from three major paint brands contained lead below detection.

Fourteen paint cans were labeled with “no added lead.” All of these paints contained lead levels less than 90 ppm, except for one black Japan colored sample. This was produced by a manufacturer from SME sector, and was labeled *lead free paint* but found to contain lead at a concentration of 560 ppm.

Lead Concentration by Color - The majority of paints from all collected colors contained lead concentrations above 90 ppm; 102 out of 109 paints of yellow color (94%), 105 out of 121 paints of white color (87%), 8 of 10 paints of dark colors (black, brown and grey) (80%) and 9 of 10 paints of other bright colors (green, blue and red) (90%).

Conclusions

Paints with high lead content continue to be widely sold in India

The lead levels in the paints included in the present study varied from below 8 ppm to 1,60,000 ppm with an average concentration of 22,800 ppm. Out of 250 samples only 26 (10%) paints were found with lead concentrations of less than 90 ppm

Ninety percent of all paints included in the study contained lead concentrations above 90 ppm, which is the proposed draft Bureau of Indian Standards (BIS) standards for enamel, interior paints and internationally considered an acceptable level of lead.

Paint companies with the largest market share are producing paints with low lead levels

The paint industry in India can be broadly segmented into major paint manufacturers and micro, small and medium enterprises. Major paint manufacturers comprise almost 64% of the market share of paint in India. The lead concentration in paints produced by the 5 major paint manufacturers (Asian Paint, Kansai Nerolac, Berger Paints, ICI /Akzo Nobel and Shalimar) included in this study all were less than 90 ppm (ranging from <8 – 32 ppm) in both yellow and white colored paints. Hence, their claim that their paints contain no added lead was found to be satisfactory. When compared to earlier studies, these results indicate a reduction of lead levels in the paint produced by major manufacturers.

Some of the smaller sector paint manufacturers produce low lead paint, indicating that the technology exists to make a shift to low lead products in this sector.

Paints from 13 brands in the small sector were found to have lead level less than 90 ppm (ranging from 12 – 77 ppm). This indicates that some of the small sector manufacturers are also aware about the hazards of lead in paint, and have the technology to produce paint without using lead compounds.

Brightly colored paints have the highest concentrations of lead

Yellow colored paints were found to contain higher amount of lead than white and other colors. These patterns of concentration by color are similar to those found in other countries.

Recommendations

At the National Level (to the government)

- Create and enforce national standards for lead in paint
- Monitor in order to achieve stricter compliance with national standards
- Create an infrastructure for blood lead level testing
- Create greater consumer awareness of the health and environmental hazards of lead in paint
- Establish a mandatory public procurement process to procure lead safe paint

At the consumers level (to consumers)

- Purchase lead safe paint from the market
- Be especially aware of paint contents when choosing the paint for children's rooms

At the scientific, environmental and health association's level

- Share this study/data on lead levels in paints in public forums
- Arrange public awareness programme or campaigns
- Recommend blood lead level tests when appropriate and caution how to reduce and prevent exposure
- Set guidelines for painters when repainting or restoring surface painted with lead paint

Recommendations to paint manufacturers, vendors, and large purchasers

- Produce paint without using lead compounds
- Become part of a third-party lead certification process
- Include uniform logos (lead-safe or unleaded paint) on products and set guidelines for safe use of home decorative or industrial and commercial paints
- Produce informational material highlighting the guidelines for safe use, lead hazards and cautions

- Post information about lead in paint in shops where paint is being sold.

1

INTRODUCTION AND BACKGROUND
TO THE LEAD PAINT ISSUE

Lead is a toxic metal, which can be found in paints when a paint manufacturer intentionally adds one or more lead compounds to the paint for some purpose. The lead compounds most commonly added to paint are pigments that give the paint its color. Lead compounds commonly used as paint pigments include: lead chromates, lead oxides, lead molybdates, and lead sulfates. These are added to produce bright colors such as yellow, red and green. Lead compounds may also be added to paint to serve as drying agents and catalysts in oil-based paints. These make the paint dry faster and more evenly. Lead-based corrosion resistance agents are sometimes added to paints that are used on metal surfaces in order to inhibit rust and corrosion. The most common of these is lead tetroxide, sometimes called red lead or minimum.

Good, cost-effective substitutes for all the lead compounds that are used in making household paints have been widely available since the 1980's and before. Any paint manufacturer that currently produces household paints with added lead compounds could easily reformulate its paints using these substitutes with very little (if any) impact on the characteristics of the paints they produce or on the price. There is no good reason for a paint manufacturer to continue producing paints with added lead compounds, especially since the childhood health hazards associated with lead paint are very serious and well-documented.

When a paint manufacturer does not intentionally add lead compounds in the formulation of its paints, the lead content of the paint will be very low – almost always less than 90 parts per million (ppm) (total lead, dry weight). If a paint manufacturer is careful in selecting ingredients that do not contain lead as a contaminant, the lead content of the paint will often be as low as 10 parts per million or less.

Children are more biologically susceptible to lead than adults for several reasons including:

- A child's brain undergoes very rapid growth, development and differentiation and lead interferes with this process. Brain damage caused by chronic, low-level exposure to lead during early years is irreversible and untreatable.
- Exposure to lead early in life can re-program genes, which can lead to altered gene expression and an associated increased risk of disease later in life.
- Gastrointestinal absorption of lead is enhanced in childhood. Up to 50 percent of ingested lead is absorbed by children, as compared with 10 percent in adults. (Pregnant women may also absorb more ingested lead than other adults). In those children who suffer from nutritional deficiencies, ingested lead is absorbed at an even more increased rate.

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[8]. Recently WHO identified lead as "one of ten chemicals of major public health concern and lead requires action by Member States in order to protect the health of workers, children and women of reproductive age."[9]

In recent years, medical researchers have been documenting significant health impacts on children from lower and lower lead exposures.[10] In response, the U.S. Centers for Disease Control and Prevention (CDC) and other authorities have concluded that there is no known acceptable lead exposure level for children.[11]

International Context

The use of lead in household paints is a matter of global concern. At an International Conference on Chemicals Management (ICCM) held in 2009, lead paints were identified by consensus to be international priority issues of concern. Representatives of the Government of India participated in this conference and accepted the decisions.

In response to the ICCM decision, the United Nations Environmental Programme (UNEP) and the World Health Organization (WHO) jointly initiated a global partnership to eliminate the use of lead compounds in paints in order to protect public health and the environment. This partnership

is called the Global Alliance to Eliminate Lead Paint (GAELP), and it´s overall goal is to prevent children's exposure to lead via paints containing lead and to minimize occupational exposures to lead in paint. GAELP's broad objective is to phase out the manufacture and sale of paints containing lead and, eventually, to eliminate the risks from such paint

In the third meeting of ICCM held in Nairobi in 2012, a strategy was developed for global plan of action to phase out lead in paints. The Conference agreed by consensus to call upon governments, civil society organizations, and the private sector to contribute to GAELP in various ways including by:

- Raising awareness about the toxicity to human health from lead in paint including for young children, paint users, and the workers in paint production facilities;
- Filling information gaps by analyzing paints for their lead content in countries where little or no data is available;
- Promoting national regulatory frameworks, as appropriate, to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;
- Encouraging paint manufacturing companies to substitute lead compounds added to paint with safer alternatives; and
- Establishing prevention programs to reduce exposure in and around housing, childcare facilities, schools and other buildings where lead paint has been used in the past.

2

INDIAN FRAMEWORK
FOR ELIMINATING LEAD PAINT

Most highly industrial countries enacted laws, regulations or mandatory standards to protect the health of their people in the 1970's and 1980's. These laws generally 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. Other countries have adopted mandatory limits in the range of 90 to 600 ppm total lead (dry weight). Toxics Link and the NGOs across the globe associated with the IPEN network generally promote the 90-ppm standard as one that is fully achievable and maximally protective.

For decades, household paints that are produced for sale in highly industrial countries have not used added lead compounds as pigments, drying agents or for other purposes. Most paint manufacturers that produce paints for sale in the developing world know the reason why. It is unfortunate that lead paints for household use are still being produced, sold and used. This practice must now end.

Toxics Link did the first study in India on lead content in paints in 2007 and found high content of lead in paints in all major brands sold in India. The study created significant impact at the policy level and the issue was also discussed in the Parliament of India, and the relevant ministries assured in the Indian Parliament that suitable actions would be initiated. However, to date, the Bureau of Indian Standard (BIS) has only circulated a draft standard stating that the lead content would be fixed as 90 ppm. (In this revision, restriction of lead content at 90 ppm level max. has been introduced to prevent lead exposure of children and

adults in consumer homes / residential premises and consequent adverse impact on human health and safety). The standards created by BIS can be made mandatory by the concerned ministry by a separate order.

In due course of time, some of the major brands have initiated voluntary actions to limit the lead content in paints. The present test result confirms the positions taken by major brands in limiting the lead content in paints. The results also reflect that, because there is no standard, the small and medium sectors companies are continuing to use in lead in paints above the prescribed limit.

Moreover, there are also debates in India on the voluntary standards of lead as proposed by BIS and whether adopting a mandatory standard would be the best possible way to achieve lead free paints in the country.

Major Paint Brands in India

The paint industry in India can be broadly segmented into major paint manufacturers and micro, small and medium enterprises. Major manufacturer make up almost 64% of the total market share for paint in India. The paint industry has slowed down somewhat in the last few years due to global economics, and uncertainties, but experts expect stronger growth over next three years and the industry might reach approximately Rs. 49,545 crore by FY16.

In FY12, the paint industry stood at Rs 26,040 crore. The decorative segment contributed nearly 71 percent at Rs 18,490 crore, while the remaining Rs 7,550 crore was contributed by the industrial segment. In terms of volume, the industry produced 3.11 million tonnes of paint of which decorative segment accounted for nearly 77 percent.[12]

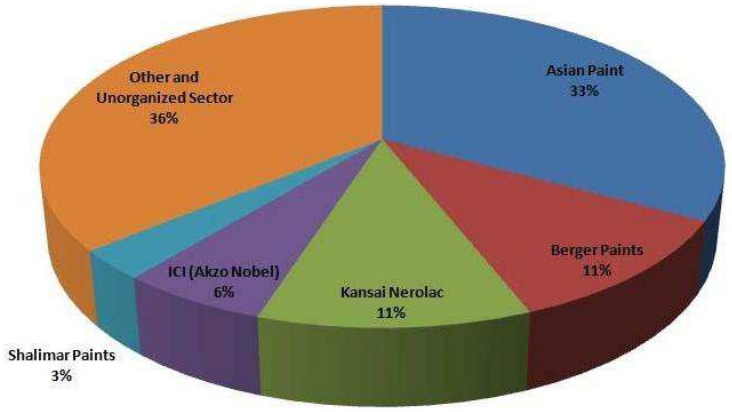
Small and medium sized manufacturing plants control around 36% of the paint market. The remainder of the market is controlled by 5 companies (Fig. 1);

- Asian Paint (Overall market leader due to leadership in decorative segment)
- Kansai Nerolac (Market leader in automobile industrial paint segment, also into decorative segment)
- Berger Paints (Major revenue comes from the decorative segment, as well as industrial paints)
- ICI /Akzo Nobel (Major revenue comes from the decorative segment, also automotive paints)

- Shalimar Paints (Primarily decorative paints and non automobile industrial coatings)

Market Share

FIGURE 1 - MARKET SHARE OF THE PAINTS IN INDIA (BASED ON MARKET RESEARCH REPORT: PAINT INDUSTRY IN INDIA 2011)[13]

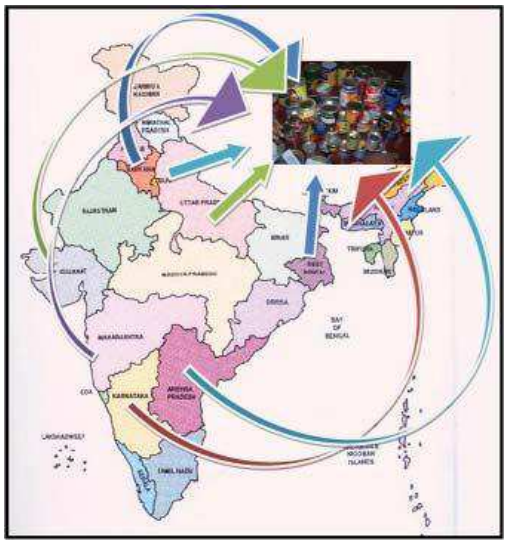


3

MATERIALS

In 2013, Toxics Link purchased 250 cans of oil-based (enamel) house paints from stores in and around Delhi, Haryana, Uttar Pradesh, Karnataka, Andhra Pradesh, Maharashtra, Gujarat and West Bengal (Fig. 2). These paints were from 147 different brands. In most cases, the selection was one white and one bright color such as green or yellow. The availability of these paints in retail establishments suggested that they were intended to be used within home environments. Excluded were automotive and industrial paints that are not typically used for domestic housing applications or to paint toys.

Paint sample preparation kits containing individually numbered, untreated wood pieces, single-use brushes and stirring utensils made from untreated wood sticks were assembled and shipped to Toxics Link by staff of the IPEN partner NGO, Arnika, in the Czech Republic. Each paint was thoroughly stirred in the can and applied by a separate unused single-use brush to duplicate, individual, numbered, unused, wood pieces by staff of Toxics Link (Fig. 3).



Each stirring utensil and paintbrush was used only once, and care was taken to avoid cross contamination. After drying, the wood pieces were placed in individual plastic bags and shipped for analysis of lead content to Certottica laboratory in Italy.

Certottica is accredited by ACCREDIA – the Italian Accreditation System, which is the Italian National Accreditation Body appointed by the State. This laboratory participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program

operated by the American Industrial Hygiene Association under a program established by the US Environmental Protection Agency.

The laboratory scraped paint off the wood pieces they received. The paint was then weighed into a hot block digestion tube and the paint chips digested according to method CPSC-CH-E1003-09.1. A quantity of paint was removed from the sample by abrasion. The paint was placed in a beaker of borosilicate, in which were added 3 mL of HNO3 and 1 mL of 30% H_2O_2. The beaker was first covered with a glass and then was heated on a hotplate (surface temperature of approximately 140° C, from 85 initially to 100° C) until most of the acid evaporated. This treatment was repeated twice more. The beaker containing the sample was removed from the plate and let cool to room temperature. Following the watch glass was rinsed with a quantity of HNO_3 10% from 3 to 5 mL and the solution was left to hot evaporate slowly and let cool to room temperature.

TABLE 1 - PAINT SAMPLE PROFILE

250	147
Country of Production	Manufacturer
India	Manufacturer - 104
	Marketed by*– 5
	No visible information on can
	due to spill - 12
Type of Paint	Color
Enamel	Yellow - 109
	White - 121
	Dark Colors (Black, Brown Grey) - 10
	Bright Colors (Green, Red, Blue) – 10
Lead content information	
14	

*The paints are marketed by particular company and the name of the manufacturer are not printed on the label

Finally,
it was added 1 mL of HNO_3 to the residue, which was agitated to dissolve the soluble species. The walls of the beaker and the bottom of the watch glass were rinsed and the whole was transferred into a flask and brought to volume with deionized water.

Lead in the digestates was analyzed by an Inductively Coupled Plasma-Atomic emission spectrophotometer (ICP-AES), Thermo Scientific iCAP 6000 Series, using yttrium (2 mg/L) as internal standard.

The laboratory's lower limit of detection for the lead concentration in the paint samples is dependent on the amount of paint in the samples. Generally, for 100 mg of paint scraped off the wood pieces the lowest detection limit is 8 ppm, but for a smaller amount of paint the detection limit increases. Therefore, the lead content in the samples from three of the paints is reported as below 8 ppm and below 9 ppm in samples from one paint.

FIGURE 3 - PREPARATION OF PAINT SAMPLE ON WOODEN STICKS

A total of 250 cans of new enamel decorative paint from 147 brands were purchased in India and analyzed for total lead content. The details of the paints are listed in appendix 1. The sample results are expressed as parts per million (ppm), based on the dry weight of the digested sample (Fig. 4, Appendix 2).

The average concentration of all analyzed paints was 22,800 ppm. Very high lead concentrations above 10,000 ppm were found in 111 of the 250 paints analyzed; 96 of the paints contained concentrations between 10,000 and 600 ppm; 17 of the paints contained concentrations between 600 and 90 ppm. None of these paints would qualify for sale on the international market. In total, 26 paints representing 18 brands were found to contain concentrations less than 90 ppm, concentrations which varied between below detection limits of <8 and 77 ppm. The highest concentration detected was 1,60,000 ppm.

Lead Concentration by Brand

Lead was detected between 12 and 1,60,000 ppm in 246 paints from 144 paint brands (Appendix 3). Overall, the paint produced by SMEs had very high lead concentrations in their paints. A total of 111 paints from 103 brands contained dangerously high lead levels above 10, 000 ppm.

Only 16 paints from 13 brands produced by SMEs and 10 paints from 5 brands produced by major paint manufacturers were found to contain lead at levels less

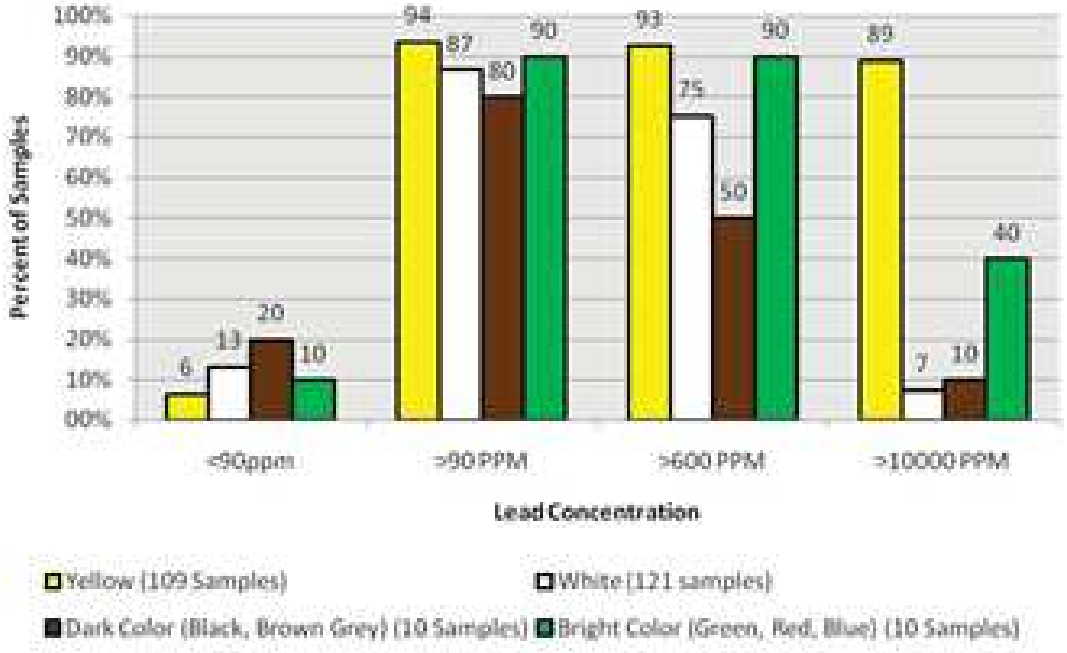
than 90 ppm. Four paints from three major paint brands contained lead below detection.

FIGURE 4 - LEAD CONCENTRATION OF ANALYZED PAINT SAMPLES

Lead Concentration by Color

The majority of paints from all collected colors contained lead concentrations above 90 ppm (Fig. 5 and Appendix 4). Lead concentrations above 90 ppm were found in 102 out of 109 paints of yellow color (94%), 105 out of 121 paints of white color (87%), 8 of 10 paints of dark colors (black, brown and grey) (80%) and 9 of 10 paints of other bright colors (green, blue and red) (90%).

FIGURE 5 -LEAD CONCENTRATIONS IN ANALYZED PAINTS BY PERCENT OF SAMPLES IN VARIOUS CONCENTRATION GROUPS ARRANGED ACCORDING TO COLOR



5

CONCLUSIONS

Paints with high lead content continue to be widely sold in India

The lead levels in the paints included in the present study varied from below 8 ppm to 1,60,000 ppm with an average concentration of 22,800 ppm. Out of 250 samples only 26 (10%) paints were found with lead concentrations of less than 90 ppm

Ninety percent of all paints included in the study contained lead concentrations above 90 ppm, which is the proposed draft Bureau of Indian Standards (BIS) standards for enamel, interior paints and internationally considered an acceptable level of lead.

Paint companies with the largest market share are producing paints with low lead levels

The paint industry in India can be broadly segmented into major paint manufacturers and micro, small and medium enterprises. Major paint manufacturers comprise almost 64% of the market share of paint in India. The lead concentration in paints produced by the 5 major paint manufacturers (Asian Paint, Kansai Nerolac, Berger Paints, ICI /Akzo Nobel and Shalimar) included in this study all were less than 90 ppm (ranging from <8 – 32 ppm) in both yellow and white colored paints. Hence, their claim that their paints contain no added lead was found to be satisfactory. When compared to earlier studies, these results indicate a reduction of lead levels in the paint produced by major manufacturers.

Some of the smaller sector paint manufacturers produce low lead paint, indicating that the technology exists to make a shift to low lead products in this sector.

Paints from 13 brands in the small sector were found to have lead level less than 90 ppm (ranging from 12 – 77 ppm). This indicates that some of the small sector manufacturers are also aware about the hazards of lead in paint, and have the technology to produce paint without using lead compounds.

6
RECOMMENDATIONS

At the National Level (to the government)

- Create and enforce national standards for lead in paint
- Monitor in order to achieve stricter compliance with national standards
- Create an infrastructure for blood lead level testing
- Create greater consumer awareness of the health and environmental hazards of lead in paint
- Establish a mandatory public procurement process to procure lead safe paint

At the consumers level (to consumers)

- Purchase lead safe paint from the market
- Be especially aware of paint contents when choosing the paint for children's rooms

At the scientific, environmental and health association's level

- Share this study/data on lead levels in paints in public forums
- Arrange public awareness programme or campaigns
- Recommend blood lead level tests when appropriate and caution how to reduce and prevent exposure
- Set guidelines for painters when repainting or restoring surface painted with lead paint

Recommendations to paint manufacturers, vendors, and large purchasers

- Produce paint without using lead compounds
- Become part of a third-party lead certification process
- Include uniform logos (lead-safe or unleaded paint) on products and set guidelines for safe use of home decorative or industrial and commercial paints
- Produce informational material highlighting the guidelines for safe use, lead hazards and cautions

- Post information about lead in paint in shops where paint is being sold.

REFERENCES

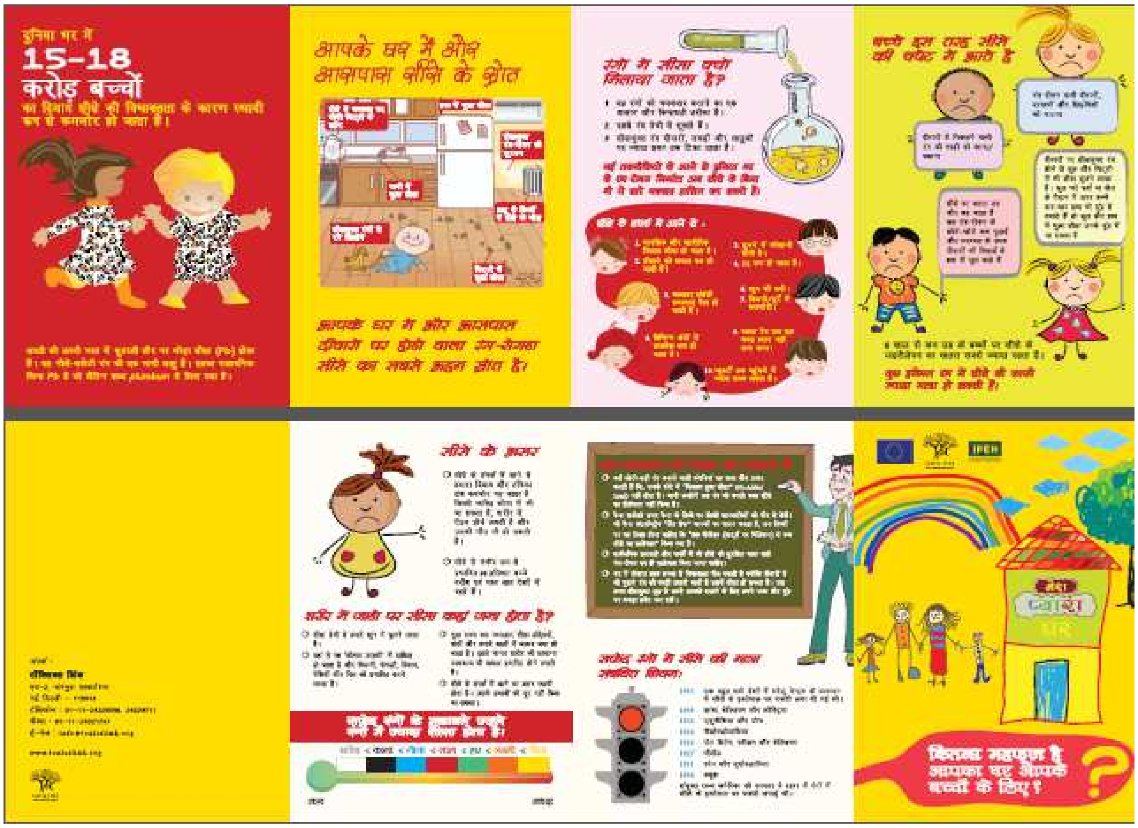
1. Double Standard: Investigating Lead (Pb) Content in Leading Enamel Paint Brands in South Asia (2011), Toxics Link, New Delhi (India).
2. Global Study: Lead in New Decorative Paints (2009), Toxics Link-IPEN. (http://www.ipen.org/ipenweb/documents/work%20documents/global_paintstudy.pdf
3. Clark C. S., Rampal K. G., Thuppil V., Roda S. M., Succop P., Menrath M., Chen C. K., Adebamowo E. O., Agbede O. A., Sridhar M. C., Adebamowo C. A., Zakaria Y., El-Safty A., Shinde R. J., Jiefei Yu. Lead levels in new enamel household paints from Asia, Africa and South America (2009), Environmental Research. 109: 930-936.
4. A Brush with Toxics: An Investigation on Lead in Household Paints in India, (2007) Toxics Link, New Delhi, (India). (Later published as Kumar A and Gottesfeld P (2008) Lead Content in Household Paint in India, Science of the Total Environment 407:333-337).
5. Clark, C. S., K. G. Rampal, V. Thuppil, C. K. Chen, R Clark, S. Roda. The lead content of currently available new residential paint in several Asian countries (2006) Environmental Research. 102, 9-12.
6. Childhood Lead Poisoning, World Health Organization (2010), p.18. (http://www.who.int/ceh/publications/leadguidance.pdf)
7. Childhood Lead Poisoning, World Health Organization (2010), p.12.
8. Preventing disease through healthy environments, p. 6. (http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf)
9. Stop lead poisoning, World Health Organization media statement, 18 October 2013, http://www. who.int/mediacentre/news/notes/2013/lead-20131018/en/index.html
10. Needleman, H., Lead Poisoning. (2004), Annu. Rev. Med. 55, 209–22.

(http://www.rachel.org/ files/document/Lead_Poisoning.pdf)

11. Scientific Opinion on Lead in Food, EFSA Panel on Contaminants in the Food Chain (CONTAM) (2010), EFSA Journal. (http://www.efsa.europa.eu/en/efsajournal/doc/1570.pdf)

12. http://www.moneycontrol.com/news/business/indian-paint-industry-to-touch-rs-50000-crore-by-fy16-ipa_810115.html

13. http://www.slideshare.net/JanneKekalainen/paint-industry-in-india-2011


दुनिया भर में
15-18
करोड़ बच्चों
आपके घर में और आसपास सीसे के स्रोत
आपके घर में और आसपास दीवारों पर होने वाला रंग-रोगन सीसे का सबसे अहम स्रोत है।
रंगों में सीसा क्यों मिलाया जाता है?
बच्चे इस तरह सीसे की चपेट में आते हैं
सीसे के असर
कितना महफूज है आपका घर आपके बच्चों के लिए?

Minimize Your Lead Exposure Risk

Here are some steps you can take to reduce lead exposure risk for your family and yourself:

- Run the cold water tap first thing in the morning or any other time the system hasn't been used for a number of hours.
- Clean your house regularly to remove dust and particles that may contain lead. This is especially important for surfaces that young children come in contact with.
- Do not put food or beverages in lead crystal containers for any length of time. Do not serve pregnant women or children drinks in crystal glasses. Babies should never drink from lead crystal baby bottles.
- If you have children less than six years of age, do not use PVC (plastic) mini-blinds.
- If you work in a smelter, refinery or any other industry where you are exposed to high levels of lead, shower and change your clothing before going home to minimize the amount of lead your family is exposed to. Make sure you have your blood lead level checked regularly.
- Never burn waste oil, coloured newsprint, battery casings or wood covered with lead paint in or near your home, as this releases lead fumes.
- If you are concerned about your exposure to lead, talk to your doctor, who can order a clinical test to measure the amount of lead in your blood.
- Ensure that iron and calcium are in your diets. If kids are exposed to lead, good nutrition can reduce lead absorption by the body.

If you are concerned about your lead exposure, your doctor can do a simple blood test to measure your blood lead level, and recommend a corrective action.

Toxics Link

Toxics Link
H-2 Ground Floor, Jungpura Extn. New Delhi- 110014
email: info@toxicslink.org www.toxicslink.org

Be Aware. Take caution

Lead poisons...

Let this not happen to you

Be aware, take caution.

Toxics Link

IPEN
a toxics-free future

Lead is a naturally occurring bluish-gray metal found in the earth's crust. Prior to our current knowledge of the health hazards of lead, it was widely used in products such as gasoline, paints, batteries, metal products, crystal, food cans, fishing sinkers and ammunition. It is well known for its anti-corrosive properties and has been extensively used in construction industry.

Why Is Lead Harmful?

When we are exposed to lead - through inhalation, ingestion, or in a small number of cases, absorption through the skin - it acts as a poison. Lead has the same affinity for our biological systems as essential minerals such as iron, calcium and zinc. Lead causes harm wherever it deposits in the body. In the bloodstream, for example, it damages red blood cells and limits their ability to carry oxygen to tissues and organs.

Most lead ends up in the bones, where it interferes with the production of blood cells and the absorption of calcium that bones need to grow healthy and strong.

Health Risks of Lead Exposure

Short-term exposure to high levels of lead can cause vomiting, diarrhoea, convulsions, coma or even death.

However, ongoing exposure to even very small amounts of lead can be very harmful, especially among infants and young children. Lead exposure of pregnant women poses health risks for unborn children.

Symptoms

Lead hinders development of the brain and nervous system. You may not notice the symptoms of long-term lead exposure, but they are severe nonetheless. Anaemia is a common symptom. Other symptoms are:

- appetite loss
- abdominal pain
- constipation
- fatigue
- sleeplessness
- irritability
- headache
- mood swings
- seizures (convulsions) and coma

If you are continually exposed to lead, as in an industrial setting, it can affect the functioning of kidneys.

About 99% of lead taken in by the adult body will leave in the waste within a couple of weeks. But only about 32% of the lead absorbed by a child is excreted.

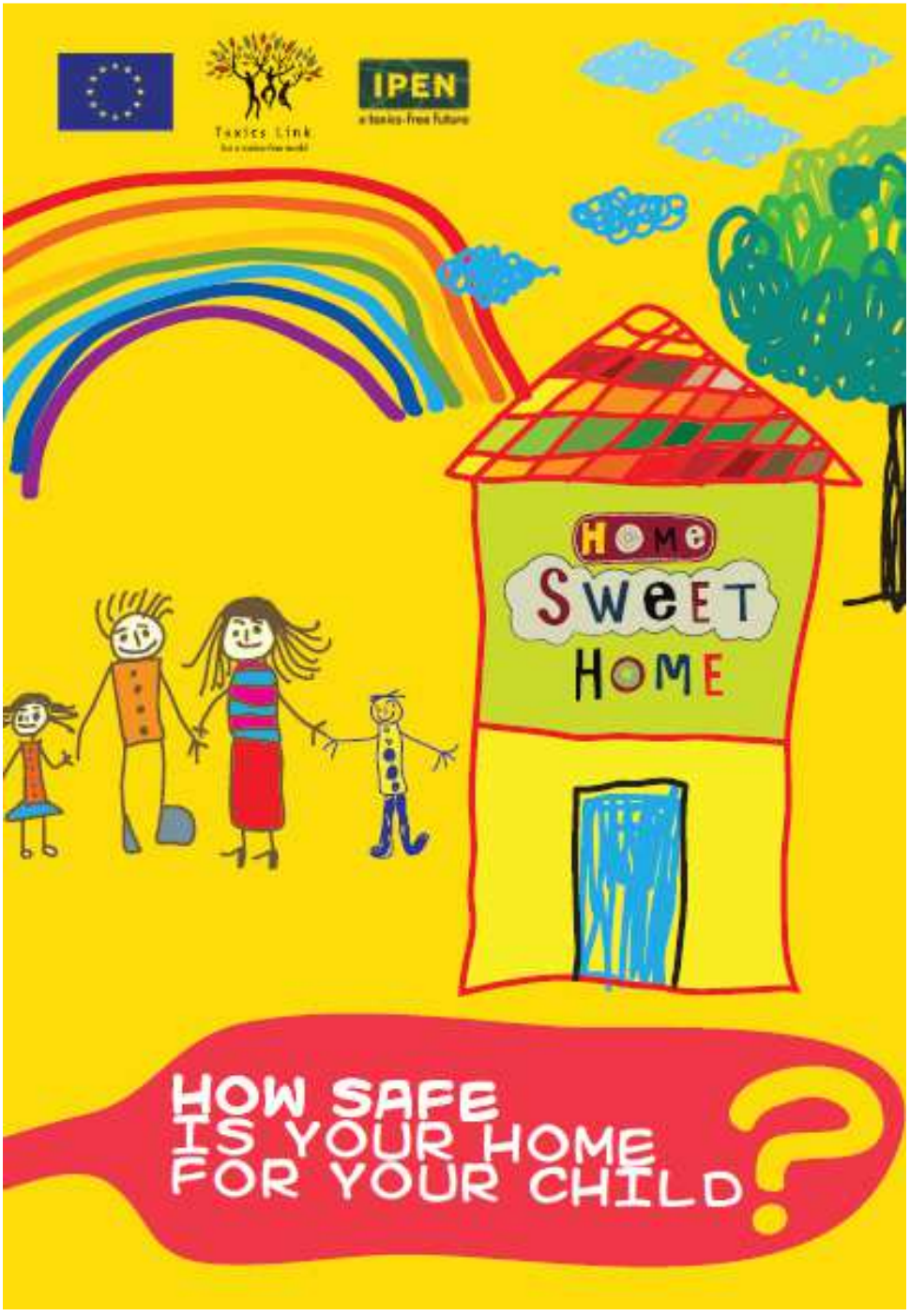
Vulnerable Groups

- Lead exposure is most serious for young children, as their growing bodies absorb lead more easily than adults. Even low level of lead exposure may harm their intellectual development, growth, behaviour and hearing.
- During pregnancy, especially in the last trimester, lead can cross the placenta and affect the unborn child. Female workers exposed to high levels of lead have higher incidence of miscarriages and still births.
- People with occupational exposure to lead, like painters, renovators, workers in refineries and smelters, have higher risks of lead poisoning.

Sources of Lead

- Food: Traces of lead are found in almost all food. Airborne lead falls onto crops or soil and is absorbed by plants.
- Air: Lead in the environment comes from industrial emissions, smelters and refineries.
- Dust and Soil: Dust and soil can be significant sources of lead exposure, especially for young children. Lead in soil can come from the air or from erosion of lead-bearing rocks, and may be carried indoors as dust.
- Water: Lead can enter the water supply from lead solder in the plumbing or lead pipes in your home.
- Paint: Most indoor and outdoor paints produced today contain substantial amounts of lead.
- Inexpensive, horizontal PVC (plastic) mini-blinds.
- Lead can enter food, especially acidic food such as fruit juices, from lead-based glazes on glassware and ceramics.
- Leaded crystal is widely used for serving beverages. When the crystal comes in contact with the beverages, especially acidic beverages such as port, wine and fruit juices, some lead dissolves into the liquid.
- Lead fumes are released when waste oil, coloured newsprint, battery casings or wood covered with lead paint are burned.

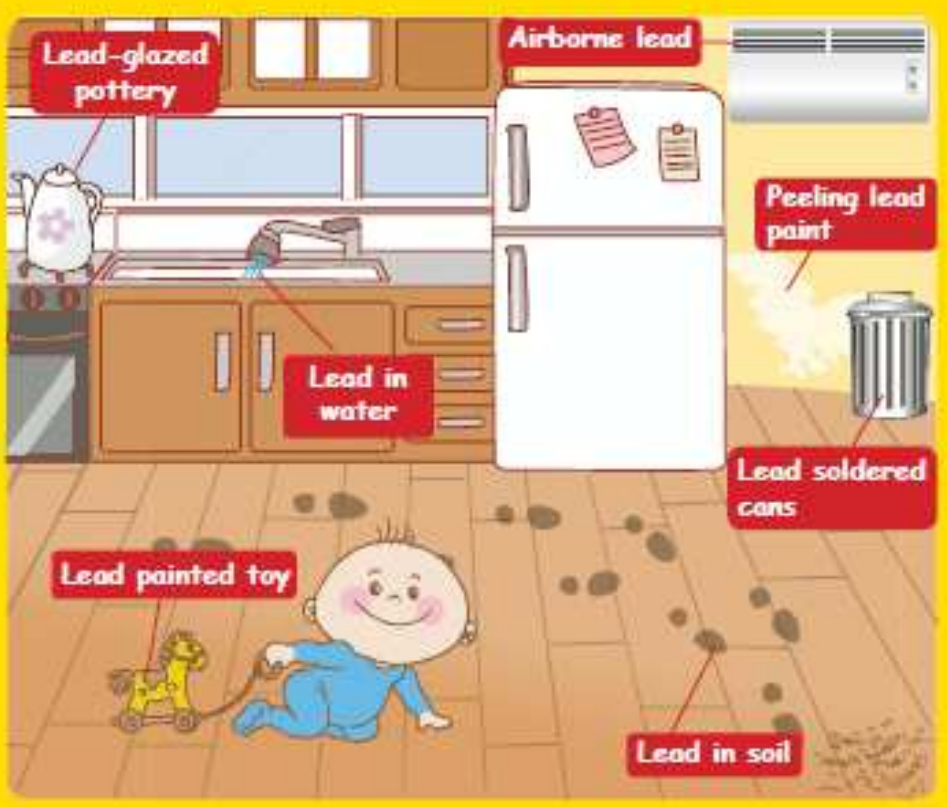
Some other harmful health effects include damaged kidneys, damaged male reproductive system, severe stomach aches, a poor appetite, sleep disorders and hearing problems. It can also decrease reaction time and affect the memory.


Toxics Link
IPEN
a toxics-free future
HOME
SWEET
HOME
HOW SAFE
IS YOUR HOME
FOR YOUR CHILD?

15-18
MILLION CHILDREN
AROUND THE GLOBE SUFFER FROM PERMANENT BRAIN DAMAGE DUE TO LEAD POISONING.

Lead (Pb) is a naturally occurring element found in small amounts in the earth's crust. It is a heavy metal that is bluish-grey in color when freshly cut. Its chemical symbol is Pb taken from the Latin word *plumbum*.

SOURCES OF LEAD IN AND AROUND YOUR HOME



ONE OF THE LEADING SOURCES OF LEAD IN AND AROUND YOUR HOME IS HOUSEHOLD DECORATIVE PAINT.

WHY IS LEAD ADDED TO PAINTS?

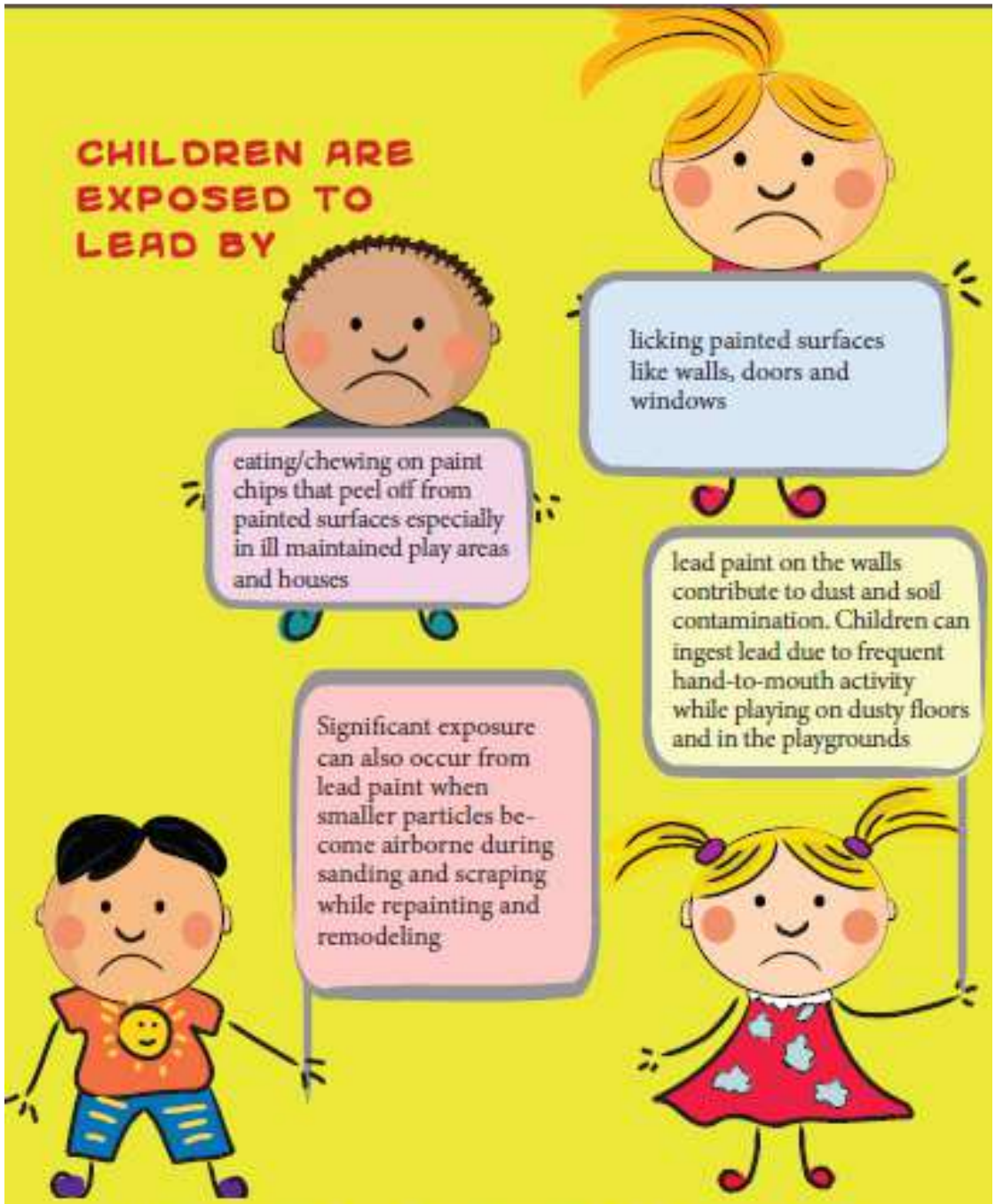
1. Easy and economic way of making colours look brighter
2. Helps the paint dry faster.
3. Paints containing lead last longer on walls, wood and metals.

WITH ADVANCEMENT IN TECHNOLOGY, MAJOR PAINT MANUFACTURERS AROUND THE GLOBE ARE NOW ACHIEVING ALL OF THE ABOVE, WITHOUT THE USE OF LEAD IN PAINTS.

LEAD EXPOSURE CAUSES

1. delayed mental and physical development
2. learning deficiencies
3. hearing problems
4. lower IQ
5. behavior problems
6. anemia
7. kidney damage
8. decreased coordination
9. shortened attention span
10. delayed puberty

CHILDREN ARE EXPOSED TO LEAD BY



licking painted surfaces like walls, doors and windows

eating/chewing on paint chips that peel off from painted surfaces especially in ill maintained play areas and houses

lead paint on the walls contribute to dust and soil contamination. Children can ingest lead due to frequent hand-to-mouth activity while playing on dusty floors and in the playgrounds

Significant exposure can also occur from lead paint when smaller particles become airborne during sanding and scraping while repainting and remodeling

Children below the age of 6 are particularly susceptible to the above.

ENAMEL PAINTS MAY HAVE HIGH LEVELS OF LEAD CONTENT.

IMPACTS OF LEAD

- Lead exposure damages the brain and central nervous system to cause coma, convulsions and even death
- 99% children affected by high exposure to lead live in low and middle income countries

WHERE DOES LEAD GO ONCE IN THE BODY?

- Lead is absorbed into the bloodstream rapidly
- From there it travels to the 'soft tissues', affecting the kidney, lungs, brain, muscles and heart.
- After some time, most of the lead is stored in the bones, teeth and hair, affecting normal functioning of the human body for life.
- The effects of lead exposure are permanent and cannot be reversed.

BRIGHT COLOUR PAINTS TEND TO HAVE MORE LEAD THAN WHITES.

White<Black<Blue<Red<Green<Orange<Yellow

Less More

BUT IT IS PREVENTABLE

- A few paint companies – both big and small - claim and advertise that their paints are "lead safe"
- While buying paints, look out for product information on the cans. A paint that conforms to global "lead safe" standards, should declare "less than 90 ppm (parts per million) Lead content".
- Make sure that the public buildings and parks use lead safe paints.
- Redecorating your home can be toxic since the old paint coming off the wall can contain lead. Keep your nose and mouth covered with a clean cloth to avoid inhaling any dust.

REGULATION FOR LEAD IN WHITE PIGMENTS

By 1935, many European countries banned the use of lead in household paints.

1909	France, Belgium, and Austria
1922	Tunisia and Greece
1924	Czechoslovakia
1926	Great Britain, Sweden, and Belgium
1927	Poland
1931	Spain and Yugoslavia
1934	Cuba

United States of America banned use of lead in paints in 1971

Contact:

Toxics Link
H-2, Jungpura Extension
New Delhi - 110014
T: +91-11-24328006, 24320711
F: +91-11-24321747
E: info@toxicslink.org
www.toxicslink.org

Toxics Link

Honduras´ Submission

Estimada Gabriela,

Un saludo cordial desde Honduras.

En seguimiento a su comunicación referente a los avances que hemos tenido en nuestro país, en el tema de la eliminación de plomo en pintura, básicamente ha sido a través de la celebración de la semana libre de Plomo que celebramos el año pasado 2013, contando con una audiencia de más de 250 personas.

Para este año lamentablemente nos han limitado grandemente nuestros recursos financieros y al parecer, según tengo entendido, la cooperación internacional no va apoyar financieramente esta actividad para este año, por lo que no se ha proyectado realizar una actividad como la del año 2013.

En cuanto a nuestro marco legal, hemos recibido interés de parte de la empresa privada, específicamente importadores y distribuidores de pintura libre de plomo, para trabajar en una legislación nacional referente a este tema. Proyectamos tener una reunión con ellos el próximo mes de septiembre.

Si tu tienes algún modelo de legislación que nos puedan compartir y que nos sirva de base, sería de mucha ayuda.

Mil gracias,

saludos

Ana Gabriela Ramírez
Gestión de Sustancias Químicas
CESCCO-SERNA

Tel: 2231-1006

WHO´s Submission
WHO report on implementation of the GAELP Business Plan, 2012 to date

WHO contributions to the GAELP Secretariat, which includes activities in support of Business Plan priority h) Engaging stakeholders

In 2012-August 2014 WHO continued to work with UNEP to provide the Secretariat for the Global Alliance to Eliminate Lead Paint (GAELP). An interim Advisory Group has met regularly by teleconference to plan activities in support of the objectives of the GAELP.

The UNEP and WHO Secretariat convened the **second forum of the Global Alliance to Eliminate Lead Paint** in Bangkok, Thailand from 9 to 11 July 2012. The particular focus of this forum was to present the draft Business Plan for the Alliance, welcome new and potential contributors to the work and to discuss practical ways of achieving business plan priorities. Representatives of 20 Governments, 16 non-governmental organizations, WHO and UNEP participated in the meeting.

In preparation for the meeting WHO conducted a survey to find out what is known about lead paint. Responses were obtained from 46 representatives in 35 countries. This revealed that in approximately one third of countries, respondents were not aware of any legislation for lead paint. The majority of respondents were also not aware of any arrangements for testing paints for their lead content or for monitoring blood lead levels in vulnerable populations, including children or occupational exposed persons. The survey provided a useful compendium of information about national situations and the contact details for persons wishing to continue to engage further in the work of the Global Alliance. The survey report was included in the meeting documents.

- 🕮 Meeting Documents for the 2nd forum of the Global Alliance to Eliminate Lead Paint.
  http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/LeadPaints/2ndGAELPmeting/2ndGAELPMeetingdocuments/tabid/104420/Default.aspx

- 🕮 Report of the 2nd meeting of the Global Alliance to Eliminate Lead Paint
  http://www.unep.org/chemicalsandwaste/LeadCadmium/PrioritiesforAction/GAELP/OrganizationalMeeting/tabid/29419/Default.aspx

The finalized Business Plan of the Global Alliance was presented to the **3rd meeting of the International Conference on Chemicals Management** (ICCM3) in Document SAICM/ICCM.3/INF/21 (English). The Business Plan has been translated by WHO and published on the GAELP (and WHO) web site in Chinese, English, French, Russian and Spanish.

The Operational Framework for the Alliance has also been translated by WHO and is published on the GAELP (and WHO) web site in English, French and Spanish.

The translation of these documents aims to facilitate the involvement of countries from different regions of the world in the global action on lead paint.

- 🕮 Business Plan for the Global Alliance to Eliminate Lead Paint; available in English, Chinese, French, Russian and Spanish. A
  http://www.who.int/ipcs/assessment/public_health/gaelp/en/index.html

- 🕮 Operational Plan for the Global Alliance to Eliminate Lead Paint; available in English, French and Spanish.

http://www.who.int/ipcs/assessment/public_health/gaelp/en/index.html

UNEP and WHO prepared a progress report on the work of the Global Alliance , which was considered at ICCM3, resulting in a further international resolution on this issue to foster further support for and engagement in the work of the Alliance.

📖 SAICM/ICCM.3/14: Progress report on the implementation of resolution II/4 B on lead in paint
http://www.saicm.org/index.php?option=com_content&view=article&id=89&Itemid=527

At ICCM3 a side event was held in collaboration with IPEN, on Monday 17 September 2012 on "Lead Paint Elimination: Progress, Prospects and Perspectives".

The UNEP and WHO Secretariat will convene the **third forum of the Global Alliance to Eliminate Lead Paint** at the WHO Office for South East Asia, New Delhi, India, from 22-24 September 2012. In preparation for this meeting, WHO is leading the development of a database of government-verified information on lead paint legislation worldwide. This will be displayed in a map, to track over time progress in eliminating lead paint.

In addition WHO continued with advocacy and technical activities in support of the implementation of the GAELP Business Plan, covered in the following sections.

Business plan priority action a) Data repository on lead

WHO has assembled advocacy and technical materials on lead on a single website (http://www.who.int/ipcs/assessment/public_health/lead/en/). These include information documents on lead and its health impacts, normative guidance and educational materials.

Booklets on the analysis of lead in blood and on the analysis of lead in paint (published in English in 2011) have since been translated into Chinese, French and Spanish and published on the WHO web site. These documents provide a brief overview of the most commonly used analytical methods. They aim to inform environmental and public health personnel and policy makers, who are not laboratory specialists but who may need to develop plans for lead screening and abatement programmes, including decisions about analyses.

📖 Brief Guide to Analytical Methods for the Measurement of Lead in Blood
http://apps.who.int/iris/bitstream/10665/77912/3/9789245502135_chi.pdf
http://apps.who.int/iris/bitstream/10665/77915/1/9789242502138_fre.pdf
http://apps.who.int/iris/bitstream/10665/77917/1/9789243502137_spa.pdf

📖 Brief Guide to Analytical Methods for the Measurement of Lead in Blood
http://apps.who.int/iris/bitstream/10665/77911/3/9789245502128_chi.pdf
http://apps.who.int/iris/bitstream/10665/77914/1/9789242502121_fre.pdf
http://apps.who.int/iris/bitstream/10665/77916/1/9789243502120_spa.pdf

Business Plan priority action b) International day of action of lead poisoning prevention

WHO worked with a number of the GAELP Interim Advisory Group members to present materials to ICCM3 about the proposal for an international day of action on lead poisoning prevention. In Resolution ICCM III/2 B, the International Conference expressed support for the proposal, and encouraged all governments, industry and civil society organizations in all regions to organize related activities in cooperation with the Global Alliance.

WHO coordinated the first international lead poisoning prevention week, held from 20 – 26 October 2013, in collaboration with a number of other GAELP contributors, in particular the US EPA and UNEP. The campaign theme was "Lead-Free Kids for a Healthy Future". Events at local level were registered by organizers on a campaign webpage, from which organizers could download customizable campaign materials in the 6 UN languages, including posters, flyers etc, which were further adapted for local use and translation in local languages. WHO produced a fact sheet on lead poisoning and health, frequently asked questions, key messages, a video message, and other factual and promotional material in UN languages.

With donor support provided by Germany, WHO provided small grants to support activities in a number of countries in Latin America, South East Asia, Europe and the Eastern Mediterranean Region. This was managed by working with the WHO Regional Offices which administered the grants and assisted the countries directly.

The campaign website registered events in 100 cities in 44 countries. These events included workshops, art contests, awareness raising, social media campaigns, blood lead testing, health fairs, governmental declarations and classroom education.

A report summarizing the events was published on the WHO/IPCS website in early 2014, to share information about the 2013 campaign and with the aim encouraging participation in the 2014 campaign. This report is available from the link below:

- 🕮 International Lead Poisoning Prevention Week: A report on 2013 Campaign Outcomes.

http://www.who.int/entity/ipcs/lead_campaign/outcomes_2013.pdf?ua=1

Links to English language versions of other materials:

- 🕮 WHO Fact Sheet on Lead Poisoning and Health http://www.who.int/entity/mediacentre/factsheets/fs379/en/index.html

- 🕮 WHO Frequently asked Questions: International Lead Poisoning Prevention Awareness Campaign http://www.who.int/entity/ipcs/lead_campaign/faq_en.pdf

- 🕮 Lead campaign website and materials (NB these websites will, in due course, be updated/overwritten for the 2014 campaign.

http://www.who.int/entity/ipcs/lead_campaign/en/index.html
http://www.who.int/ipcs/lead_campaign/pb_campaign/en/index.html

- 🕮 WHO Europe Report: International Lead Poisoning Prevention Week of Action in the WHO European Region.

http://www.euro.who.int/__data/assets/pdf_file/0020/253271/WHO_Europe_LEAD-WEEK-REPORT.pdf

Business Plan priority action g) WHO evidence-based guidelines on the prevention and management of lead poisoning

In view of the continuing burden of disease from lead, WHO is developing guidelines for the prevention and management of lead poisoning. These guidelines will present evidence-based recommendations on a range of measures for the prevention of lead exposure as well as on the appropriate management of poisoning.

WHO guidelines involve (consistent with international best practice for health guideline development) a systematic search for, and review of, available evidence, together with an assessment of the quality of that evidence before recommendations are formulated. This is a rigorous process.

A guideline development group has been convened, comprising experts from all WHO regions. The group has met twice, most recently in March 2014. Systematic reviews are in development, with a number completed. It is anticipated that the guidelines for the management of lead poisoning will be published prior to the guidelines for prevention.

CREPD´s Submission

Centre de Recherche et d'Education Pour le Développement
Research and Education Centre for Development
B.P : 2970 Yaoundé / Tel: (237) 22825094 (237) 77202271
Registration No 000408/RDA/J06/BAPP
Email: crepdcentre@yahoo.com, Site web: crepdcameroon.org

CREPD Cameroon contribution to GAELP

Information update about the progress related to the elimination of lead paint in Cameroon

Below please find the contribution of the Research and Education Centre for Development (CREPD) Cameroon on GAELP Secretariat request to provide information about the progress related to the elimination of lead paint (in Cameroon). CREPD contribution is given under relavant paragraphs of the 15. Priority Actions 2012-2013, drawn from the focal area workplans as set in the invitation letter, and of 16. Additional Actions for 2014-2020.

15. Priority Action 2012-2013

(c) Mapping important sources of environmental exposure to lead paint by filling gaps in information on levels of lead in paint from countries where limited data are available, and on identifying potential sources of exposure affecting vulnerable populations (e.g., children under six years of age and workers in paint production facilities)

CREPD Contribution

The most significant development on lead paint elimination pragram in Cameroon toward the end of 2013-beginning of 2014 was made possible thanks to the partial support from Conservation, Food and Health Foundation in USA and collaboration with OK International, USA. During this period, CREPD was able to confirm through testing that the voluntary measures put in place by Seigneurie the largest paint manufacturer in Cameroon (PPG subsidiary), in 2012 (under QSP TF project) has stopped adding lead to decorative/architectural and industrial paints (except marine paint) in Cameroon. Our testing report demonstrated that they have reformulated as pledged. Also, CREPD was successful in encouraging the company to take back a significant quantity of lead paint that had been in distribution (e.g. retail outlets) for disposal. At a national workshop organized under this grant, the company made a presentation stating that it has taken back more than 3.7 Metric

Tons of paint products and held back 8.4 Metric Tons of lead-containing pigment from production in their warehouse for "decommissioning" or eventual disposal. This is the first time that any paint company has provided documentation and quantites of lead-containing products that have been taken off the market and raw materials that have been set aside for disposal as hazardous waste.

However, our testing conducted in early 2014 has revealed that the second largest company, Smalto, and other importers/ manufacturers have not yet reformulated. Additional dialogue with the Smalto has resulted in a pledge to stop adding lead to their paint products in 2014. This assurance must now be verified with independent testing.

(e) Developing a framework for the labelling and certification of paints

CREPD Contribution

The largest paint company in Cameroon (Seigneurie, PPG subsidiary) has initiated a labeling program after pressure from CREPD to inform consumers that their paints do not contain lead additives. All paint cans now carry a label indicating that the paints contain less than 90 ppm lead.

16. Priority actions for 2012-2013, drawn from the focal area workplans

(a) Promoting the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;

CREPD Contribution

As from 2012 commitment, CREPD has been unable to encourage the government standards agency to complete their initiative they started in 2012 to develop a regulatory framework to eliminate the use of lead paint in Cameroon. Recognizing that this process had staled, CREPD organized a national workshop in 2014 to help find an alternative route to encourage national regulation to restrict the use of lead in paints. As a result of the workshop, they identified an alternative approach and have subsequently received assurances from the Ministry of Health that they will develop a regulation to address lead in paints within a relatively short timeframe.

(d) Preparing and disseminating guidance materials on how to minimize potential lead exposure in and around housing, childcare facilities, schools and other buildings where lead paint has been used in the past, including information on proper procedures for repainting surfaces, remodelling and demolition;

CREPD Contribution

CREPD updated, printed out and distributed 1,000 sample of its brochure/booklet on lead paint elimination and lead exposure awareness in 2014. The updated version is "*Comment Préserver la Quotient Intellectuel de tes Enfants?*" … "*Agir en Tournant Définitivement le Dos aux Peintures au Plomb"*

(f) Increasing capacities to conduct blood-lead testing and surveillance programmes, to assess residential and occupational risks and to implement public and professional education on the mitigation of lead poisoning.

CREPD Contribution

In partnership with LeadCare, OK International and Centre Pasteur du Cameroun (CPC), CREPD is currently developing a pilot project to test boob lead levels in children aged 6 months to 7 years. This pilot testing will include 100-150 children and we expet it to be carried out in 2015.

IPEN´s Submission

Progress report from IPEN in relation to the priority items of the GAELP Business Plan, 2012 - 2014

IPEN and participating organizations have continued the work for global lead paint elimination between 2012-2014 through activities in around 25 countries in Asia, Africa and South America. Activities have included chemical analyses of paint to determine lead content, public awareness campaigns, outreach to industry and dialogue with policy-makers to promote enforced legislation restricting the use of lead in decorative paint. Some of the main efforts are highlighted in this brief report, and further details in relation to the 2012-2013 priority items given below.

The most concentrated national efforts to eliminate lead paints have been by IPEN participating organizations in the seven Asian countries in IPEN´s EU funded Asian Lead Paint Elimination project (Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka and Thailand). Through this project, extensive studies on lead content of most paint brands on the national markets have been carried out (more than 800 paints analyzed); extensive public awareness campaigns have been carried out, generating more than 250 articles published in printed media and online and at least 100 radio and TV interviews on the issue; most paint manufacturers active in the partner countries have been engaged in dialogue to explore what obstacles there are to removing lead from the paint production; a policy have been put in place in the Philippines, the existing policy enforced in Sri Lanka and important steps have been taken towards regulations restricting the use of lead in decorative paints in the remaining five countries.

In 2013, IPEN prepared a report on lead content of paint samples from major paint brands in nine countries in in collaboration with UNEP. IPEN prepared and coordinated the report and study for UNEP in cooperation with IPEN participating organizations in Argentina, Azerbaijan, Chile, Cote d'Ivoire, Ethiopia, Ghana, Kyrgyzstan, Tunisia and Uruguay. The study was released during the GAELP International Lead Poisoning Prevention Week in 2013, followed by public awareness activities, dialogue with policy makers and outreach activities to national paint industry.

Since 2012, studies on the lead content in enamel, decorative paint have been carried out by IPEN participating organizations in 7 additional countries (Armenia, Cameroon, Kazakhstan, Kenya, Lebanon, Paraguay and Russia) followed by public awareness activities, dialogue with policy makers and outreach activities to national paint industry.

IPEN´s activities relating specifically to the 2012-2013 priority actions

B. Developing a proposal and obtaining broad support among Governments, clinical and public health professionals and other stakeholders for the marking of an international day of action on prevention of lead poisoning

IPEN was given responsibility for promoting, supporting, and coordinating the participation of public interest NGOs for the first GAELP . IPEN participating organizations in twenty-five countries engaged in activities, which included release of new national studies of lead content of decorative paints, round-table discussions with policy makers and other stakeholders, school rallies, and many other activities aimed at raising public awareness about the hazards of lead paint.

C. Filling information gaps on the presence or absence of lead paint on the consumer market

Throughout 2012-2014, IPEN and Participating Organizations have continued the effort of determining lead content of enamel, decorative paints through lab analyses. Since 2012, studies have ben made in 23 countries, and since the establishment of the GAELP in 2009, IPEN and Participating Organizations have generated data on the lead content of decorative paints from around 30 countries. Based on the results from all these studies, it is clear that if there are no restrictions on using lead in decorative paints in a country, paints with high levels of lead will be easily available for purchase.

In addition, the recent paint studies conducted by IPEN NGOs in Asia suggest that, with a few exceptions, paint companies with the largest market national shares in Asia have shifted to products with less than 90 ppm lead content.

D. Developing technical guidelines for paint manufacturers on alternatives to lead compounds used in paint

An important component of IPEN´s Asian lead Paint Elimination Project has been outreach to industry, with an emphasis on small- and medium-sized paint manufacturers to determine what obstacles there are for removing lead from their paint production. From discussions with manufacturers in all the seven countries it has become clear that main challenge is not technical, but a matter of getting access to appropriate, non-leaded substitute ingredients in small quantities and at a reasonable price.

For some, it may also be difficult to identify the substitute ingredients that would be most appropriate to their particular product lines; to obtain all available information on how to reformulate their products using the substitute ingredients without devoting an excessive amount of time and resources to research and development; and/or to establish good vendor relationships with the companies that supply appropriate substitute ingredients.

IPEN has therefore focused on facilitate information exchange between paint manufacturers and ingredient vendors, and skill share between larger and smaller paint manufacturers through their trade associations. Since 2012, successful meetings and trainings have been conducted through efforts by IPEN participating organizations in Sri Lanka, the Philippines, Bangladesh and Indonesia.

E. Developing a framework for the labelling and certification of paints

Establishing and promoting third-party certification is a component of IPEN´s Asian Lead Paint Elimination project. Therefore, a series of stakeholder meetings with paint industry,

health professionals, consumer organizations and other relevant stakeholders have been convened in India and the Philippines. The purpose of these meetings has been to develop a regional certification scheme for paints with no added lead. The scheme is expected to be up and running in at least one country by the end of 2014, and to expand to other countries in the region in the years to come.

OK International´s Submission

Occupational Knowledge International (OK International) is actively involved in supporting the overall objectives of GAELP and is working in partnership with other GAELP contributors on this effort. Outlined below are some of the activities we have conducted in support of the priority actions outlined in the partnership's business plan:

1) Clearinghouse: OK International has provided updated information on its web site (http://www.okinternational.org/lead-paint/Background) listing the countries where paint has been tested for lead content, regulations on lead in paint and other consumer products. The web site also provides information on the hazards of lead, links to other sources of information and fact sheets, and information on developing a certification for paint without added lead.

2) Support for week of action: Perry Gottesfeld of OK International supported WHO's regional efforts in Asia during the first week of action in October 2013. He spoke at the conference organized in New Delhi for this purpose.

3) Filling information gaps: OK International worked with our NGO partners in India, Nepal, Cameroon, and Uganda to test for lead levels in new paints. Results from Nepal and Cameroon have been published in the scientific literature and are available at:

a. Nepal:
http://www.sciencedirect.com/science/article/pii/S0013935114000838

b. Cameroon:
http://www.okinternational.org/docs/Gottesfeld%20JOEH%20Lead%20Cameroon%202013.pdf

c. India:
http://www.okinternational.org/docs/Lead%20Paint%20in%20India.pdf

4) Developing framework for paint certification: OK International has developed and proposed a general framework for third part certification of paints made without added lead. The framework is available at:
http://www.okinternational.org/lead-paint/Certification
In addition, we have worked in partnership with IPEN under the EU SWITCH Asia project to develop and launch a paint certification program through stakeholder consultation in the Philippines and India. The results of the stakeholder process in both countries produced a certification standard based on a maximum lead content of 90 ppm and include provisions on container labeling. OK

International provided advice and drafted key technical guidelines in support of these activities. The paint certification program in the Philippines is expected to be launched in 2014.

5) Developing a GAELP document on lead paint regulatory framework: OK International participated in the GAELP process to draft and produce a document on the elements of a model regulatory framework for lead in paints. In addition, Perry Gottesfeld of OK International has advised government officials in Cameroon and Nepal on the content and approach for regulations to restrict or eliminate the use of lead paint.

6) Support of guidelines on the prevention and management of lead exposure: OK International has been actively involved in conducting exposure assessment studies involving lead in India, Nepal, Cameroon, Sri Lanka, Philippines, Bangladesh, Indonesia, Thailand, Senegal, Kenya, and Nigeria in partnership with other NGOs and Universities. Such studies have looked at a range of exposures including lead in paint, dust, soil, air, and food contamination from a range of sources including:

a. Paint
b. Lead battery production, use and recycling
c. Aluminum cookware
d. Artisanal mining operations
e. Other industrial emissions

In addition, Perry Gottesfeld from OK International had co-chaired a committee through the U.S. Centers for Disease Control and Prevention (CDC) that recommended new guidelines for the prevention of childhood lead poisoning. All these efforts should be useful for consideration by WHO in establishing guidelines on lead poisoning prevention.

7) Engaging additional stakeholders for GAELP: OK International has worked to actively recruit additional contributors to join the GAELP. We have worked with partners in Nepal and Cameroon to encourage government participation in the GAELP. In addition, we have worked with a researcher in Kenya to encourage the contribution of her institution in the work of GAELP. OK International has encouraged numerous paint companies to join the GAELP as part of our ongoing outreach to industry in support of these objectives.

LRMF

International Lead Awareness week of Action – 20th – 26th Oct 2013

Events organized and conducted by the Lata Medical Research Foundation, Nagpur and Dr.Archana Patel, Advisory committee member of the Global Alliance for Elimination of Lead in Paints during the International Lead Awareness Week from.

We lobbeyed for contributorship at environmental health workshop at the advisory committee meetinga at the International Congress of Pediatrics at Melbounrne in August 2013.

We contributed articles explaining the adverse health effects of lead in children and adults were published in the local newspaper `The Hitvada' and special article for children in its weekly kids supplement twinkle during

You can also find links of press release in our national newspapers :

http://www.ehitavada.com/news.detail/paper_type/1/news_id/281230/ 24/10/2013 12:38 PM
http://articles.timesofindia.indiatimes.com/2013-10-20/nagpur/43220387_1_lead-poisoning-lead-exposure-eliminate-lead-paint

Meetings with Rotary, Nagpur Muncipal Corporation, Medical colleges, Environmental Health division of Indian Academy of Pediatrics (IAP), headed by Dr. Alok Gupte and at the advisory committee meeting of IAP, Medical colleges and National Environmental Engineering Institute, Nagpur were organized to create awareness and engage NGOs to create awareness in schools and colleges using handouts and posters

Engagement with Rotary at the International, National and Regional level. Rotary International President Mr. Ravindran 2014-2015 and DG Delhi district 3010 Mr. Vinod Bansal were contacted for their support to the cause of elimination of lead in paints.

Meeting with the Occupational division of the Emplyoees` State Insurance Corporation, New Delhi (Dr. Ojha/ Dr. Shruti Virmani, Department of Pediatrics, ESIC, Basaidapur)

Petition signed along with toxics links.

Support from Mr. Shah Rukh Khan for promoting lead elimination from paints. The following messages was endorsed by him…LEAD CAUSES IRREVERSIBLE BRAIN DAMAGE IN CHILDREN. IT IS PREVENTABLE. AVOID EXPOSURES IN CHILDREN BY CHOOSING HOUSE PAINTS THAT ARE LEAD FREE. WASH THEIR HANDS FREQUENTLY. LETS WORK TOGETHER TO MAKE THIS WORLD A SAFER PLACE FOR OUR CHILDREN.

19th Oct 2013 – Meeting with the media namely press reporters from national daily Times Of India for releasing a press note on the importance of preventing the adverse effects of lead exposure.

http://articles.timesofindia.indiatimes.com/2013-10-20/nagpur/43220387_1_lead-poisoning-lead-exposure-eliminate-lead-paint

21st Oct 2013 – Press conference was conducted by engaging different media from Marathi, Hindi and English newspapers to create awareness about the lead effects on health of children and adults, economy and the need for advocacy for removing lead in paints.

Some of the clippings from the local newspapers for our press conference on 21st Oct 2013, International lead awareness week of action campaign.

ट्विंकल स्टार स्कूल में चश्मे वितरित

शहर प्रतिनिधि

नागपुर. मानव मित्र परिवार संस्था व पं. दीनदयाल उपाध्याय चैरिटेबल ट्रस्ट के सहयोग से न्यू चैतन्य ट्विंकल स्टार पब्लिक स्कूल मिसाल लेआउट में जरूरतमंदों की आंखों की जांच कर उन्हें निःशुल्क चश्मे वितरित किए गए. ट्रस्ट द्वारा किए गए कार्यों को सराहा जा रहा है. चश्मा वितरण रजिस्ट्रार सिद्धार्थ घरडे के हस्ते किया गया. आनंद खापर्डे, सुधीर पाटील, निलकंठराव देवांगन, राजेश राऊत, जीतू ठकरे, ज्योतिराव बारसागडे, सचिन टेंभुर्णे आदि प्रमुख रूप से उपस्थित थे.

सीसायुक्त पेंट, पेंसिल बच्चों के लिए घातक

तनाव, चिड़चिड़ापन, पेट दर्द की बढ़ रहीं बीमारियां

महानगर संवाददाता

नागपुर. घर की दीवारों को खूबसूरत लुक देने वाला पेंट भले ही आपको पसंद आये, लेकिन यह बच्चों सहित युवाओं के लिए इतना खतरनाक हो सकता है कि इसकी किसी ने कल्पना भी नहीं की होगी. पेंट का मुख्य घटक लेड (सीसा) कई तरह की बीमारियां फैला रहा है. खासतौर से बच्चों में हाथ धोने की आदत कम होने से भोजन के माध्यम से सीधे पेट में पहुंच रहा है. मेयो के बाल रोग विभाग की प्रमुख व लता मंगेशकर मेडिकल रिसर्च फाउंडेशन की प्रोजेक्ट डायरेक्टर डा. अर्चना पटेल ने पत्रकारों को बताया कि दीवारों को रंगने से लेकर तो रोड डिवाइडर, जेब्रा क्रासिंग और अन्य स्थानों पर लगाये जाने वाला पेंट, बच्चों के इस्तेमाल की पेंसिल, खेल सामग्री, होली का रंग, पुरानी चीनी मिट्टी के बर्तन आदि में सीसा मिला है. इसका सबसे ज्यादा असर बच्चों पर होता है. बच्चों में चिड़चिड़ापन, सिरदर्द, पढ़ाई में मन नहीं लगना, पेट दर्द, बुद्धिमत्ता की कमी, थकान, तनाव आदि बढ़ता है. 1995 में किये गये एक सर्वेक्षण में 67 फीसदी बच्चों के शरीर में सीसे का प्रमाण देखा गया था.

बच्चों को पेंसिल चबाने से बचाएं

अक्सर बच्चे पेंसिल को चबाते हैं. इससे थूक के माध्यम से सीसा शरीर में जाता है. यह समस्या बेहद गंभीर है. लेकिन किसी भी शासकीय अस्पताल में सीसा जांच करने के लिए मशीन तक उपलब्ध नहीं है. कुछ निजी अस्पतालों में मशीन उपलब्ध है, लेकिन आम आदमी के लिए खर्च वहन करना मुश्किल होता है. बच्चे अक्सर दीवारों को हाथ लगाते हैं. वहीं अनेक बच्चों में भोजन से पहले हाथ धोने की आदत नहीं होती. इससे सीसा सीधे पेट में प्रवेश करता है.

युवाओं में किडनी फेल मुख्य बीमारी

उन्होंने बताया कि युवास्था में सीसा से होनेवाली बीमारियों में मुख्यतः किडनी फेल होना और तनाव है. वहीं गर्भवती मां से नवजात पर इसका सीधा असर होता है. उन्होंने बताया कि दुनिया के अनेक देशों ने सीसायुक्त पेंट पर बैन लगाया है, जिस तरह पेट्रोल में सीसा का इस्तेमाल बैन किया गया, उसी तरह भारत में पेंट में सीसा को पूरी तरह बैन किया जाना अनिवार्य है. उन्होंने बताया कि फाउंडेशन के सहयोग से रोटरी क्लब पीडियाट्रिक्स सोसाइटी द्वारा नगर के विविध स्कूलों में जनजागृति कार्यक्रम चलाए जाएंगे.

25 से प्रदर्शनी व सेमिनार

शहर प्रतिनिधि

नागपुर. रेशमबाग मैदान पर 25 से 28 अक्टूबर तक आयुष्यमान भव प्रदर्शनी व सेमिनार का आयोजन किया गया है. पारंपरिक चिकित्सा पद्धति के प्रचार-प्रसार के लिए आयोजित कार्यक्रम में विविध विषयों पर विशेषज्ञ मार्गदर्शन करेंगे. इस दौरान निःशुल्क रोग निदान शिविर का भी आयोजन किया गया है. आयुष संस्था दिल्ली के डायरेक्टर डा. सुरेश भंडारकर 26 व 27 अक्टूबर को नाड़ी परीक्षण के लिए उपलब्ध रहेंगे.

मार्गों पर मवेशियों का जमघट दूसरों के सुख में अपना

PAINTS: A MAJOR CAUSE FOR LEAD TOXICITY

■ By Dr Anukampa Kumbhare
& Dr Vijay Thawani & Smita Puppalwar

LEAD is used in mining industry, smelting, refining, informal recycling, petrol, batteries, paints, jewelry, soldering, ceramic pottery, glass, electronic waste and water pipes. Lead toxicity affects multiple body systems.

Sources of lead consumption

Food: Children eat dropped and dust laden cereals / fruits contaminated with lead and mouth contaminated toys. Lead mining contaminates ground water, plants, vegetables, cereals and food chain. Canned foods and beverages are contaminated from soldering.

Drinking water: Plumbing system of lead pipes, fittings and soldering transfer lead to water from continuous contact.

Domestic use: Weathering, peeling and chipping of lead paints from play areas, homes, toys coated with lead colours, and household dust. Other causes: Surma, kajal, lipstick, folk remedies, pottery glaze, old cans/ urns/kettles with solders, contaminated vitamin supplements, and parental occupation in lead / agarbatti / paint manufacture/ painting.

Toxic effects of lead on health: Lead exposure occurs after applied lead paint dries. Lead poisoning, also known as saturnism /plumbism/ painter's colic, is caused by elevated blood lead levels. Lead exposure accounts for 0.6% of global disease burden mostly in developing regions. Lead causes hearing, muscle, fertility damage, low IQ, hyperactivity, attention deficit, learning disabilities, anemia, headache, abdominal pain, appetite loss, constipation, clumsiness, agitation or decreased activity. Children absorb 4–5 times more lead than adults, which is higher in undernourished children. Lead causes lack of sleep, tremor, hallucinations, and convulsions. Because children remain undiagnosed, hence remain untreated, causing irreversible damage.

High blood lead levels in women cause osteoporosis, lower backache, joint pains and anemia. In pregnant women, lead increases risk of premature and low birth weight babies. Feto-maternal transfer of lead occurs. There is no known safe exposure level to lead. Children between 3-7 years of age with lead poisoning have poor hand-eye coordination.

The awareness about lead poisoning is abysmally low. Children under five are more prone to harm, because of hand contamination, hand-to-mouth behaviour, playing with toys covered with lead containing paints, contacting/ ingesting/ inhaling dust and chips of lead paint in play area, homes, and schools. Children environment is full of lead and we hardly realize the toxic effects, some of which are permanent, for which we humans are responsible.

Economic impact: Lead exposure decreases child's academic performance, leading to impulsive and violent behavior contributing to decreased economic success. Cost of childhood lead exposure in Asia is reported to be USD 699.9 billion amounting to 1.88% of GDP, thus reducing the overall national productivity. Lead compounds are added to paints as pigments. Lead helps speed up drying of applied paint, increases durability, maintains fresh appearance, and resists moisture. A small paint chip contains hundreds of milligrams of lead, ingesting which is hazardous for children.

How to contain lead toxicity?

Take preventive steps to minimize lead exposure in children. Raise awareness of teachers and parents.

- Supervise children playing, and inculcate habit of washing hands after playing and using coloured pencils.
- Avoid excessive boiling of water and using aluminium utensils to reduce lead transfer.
- Reduce environmental lead contamination by sealing-in old lead paint.
- Conduct advocacy in schools, local bodies, civic agencies to use lead-free paints in children`s environment and public interest action against defaulters.
- Promote alternatives for lead paints.

Lead content in paints in India: Lead content varies with colour. White, blue and brown-red paints have lower lead. Green, red, orange and yellow paints have increasing higher lead. Yellow and orange paints have highest while black and white lowest lead concentrations. Reports indicate that 100% (n=17) of paint samples from India had >600 ppm of lead while 82% samples had >5000 ppm of lead. In randomly purchased 25 paints samples, controlling 75% of household paints market, 23 contained lead. In 72% lead was >1,000 ppm limit specified by Bureau of Indian Standards (BIS). Highest lead content was in Shalimar's superlac deep orange paint, 185 times BIS limit. Berger's brand Luxol's golden yellow color had 163 times of BIS limit. All ICI - Dulux samples had lead below specified limit. White shades of Asian Paints and Nerolac also conformed to standards. Asian Paints and Nerolac accepted to get rid of lead content and did so.

The Indian paint industry is governed by Paints, Emulsion Specification of BIS 2004, which states that products should contain <0.1% by mass (as metal) for "ECO Mark" indicating environment friendliness. Indian paints may not contain lead <1000 ppm. As the BIS standard is voluntary, the paint industry is unregulated for lead content.

What needs to be done?

Monitor blood lead levels during occupational exposure, in children and women.

Screen food items for lead content.

Make high lead content product information public so as to raise awareness and prevent exposure. Out of our concern for nature and life, we should eliminate lead toxicity unless we want to be blamed by the future generations for being apathetic and disinterested in preserving the environment.

(The authors are from Lata Medical Research Foundation, Nagpur) ●

The Global Alliance to Eliminate Lead in Paints" recommends that by 2020 all chemicals and products should minimize lead use and eliminate adverse effects on human health and environment.South East Asia conference on Lead Poisoning is being held on 24th & 25th Oct 2013 at New Delhi by Global Alliance and Co-sponsored by LMRF and Dr Archana Patel from LMRF who is the signatory and Advisory Board member for this alliance is attending it.

Lead free children build strong Nation

■ **Dr Archana Patel and Dr Anukampa Kumbhare**

Hello little friends! Today we will learn where the heavy metal lead is found and how harmful it is for human beings. Lead is a harmful metal which is found on earth's crust. It is also used in pencils, paints, toys, coloured crayons, and also many other commonly used items such as house paints, nail polish, lipstick, kajal, sindhoor, holi colours, clay potteries, solder from old food cans, car batteries and was also used in petrol a few years ago. So lead is found in products used every day.

How can lead enter our bodies?

Lead from bright coloured paints like yellow, red, orange used in homes, schools and gardens, pencils and toys can settle in the dust and soil.

Lead from other items used everyday can contaminate fingers.

Dust from soil can settle on vegetables, fruits and water source

Water from old lead pipes in our homes can also contain lead.

Thus we continue to take in lead through these common sources in small amounts. Lead is absorbed in the blood and stays there to cause many problems. It also gathers over time in our body in the bones, teeth and hair. Toddlers love to put the toys in their mouths due to which lead goes easily into their body and children absorb it quickly. It affects the brain and the IQ. It makes a child cranky or inactive, causes bad behaviour, inattentiveness in school and lessons, stomach ache, constipation, refusal to eat, disinterest in playing and weakness, less blood or anemia and also makes the bone, teeth and kidneys weak. Children can also develop dishonest and criminal tendencies. High levels of lead in the body makes a child seriously sick enough to be hospitalized.

We may not be able to change the harmful effects of lead but we can prevent getting poisoned. Children should always wash their hands properly before eating and after using colour crayons and water paints; after playing in gardens. The dropped food items should not be eaten. Toys painted with bright paints that can have lead should not used and definitely not put in mouth. Swings, slides, sea-saw, merry go round, climbers, park benches are brightly painted. These paints are harmful for health, so children should not lick or bite any of the equipments in the parks, and wash hands soon after playing.

So dear little friends we have also learn that most of the painted items and paints are very harmful for our health. So let us inform everyone we can...friends, relative, parents and teachers about this problem of lead in paints. Let's get together to ask the paint industry to remove lead from paint as it was removed from petrol many years ago to make this world a safer place for human beings. . .

Organizations such as the Global Alliance to Eliminate Lead Paint (GAELP), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) are helping to make this world safe so let us help them to help us.

We organized visits to schools and talks were arranged on lead awareness and future directives related to prevention of lead poisoning. About 10,000 handouts were given to the

school children and posters were displayed at the schools as a part of our lead awareness campaign from 22nd – 26th Oct 2013.

From 24th – 25th Oct 2013 Dr Patel attended the South East Asia Conference at New Delhi which was organized in association with the Toxic Links.

Scott Clark´s Submission

1. Documented Impact of Lead Paint Control Activities in Brazil (samples collected after effective date of lead paint regulation compared with earlier data from IPEN/Toxics Link Survey) and in India where efforts to eliminate use of lead in paint had been underway for several years. Study conducted in cooperation with Toxics Link (India) and APROMAC Environmental Protection Association and Environmental Health Association, Curitiba (Brazil), all members of IPEN network. Financial support from US Environmental Protection Agency. Results published in: Clark, C Scott, Kumar, Abhay, Mohapatra, Piyush, Rajankar, Prashant, Nycz, Zuleica, Hambartsumyan, Amalia, Astanina, Lydia, Roda, Sandy, Lind, Caroline Menrath, William, Peng, Hongying Peng (2014), Examination of the Lead Concentrations in New Enamel Paints in Four Countries with Different Histories of Activity in Lead Paint Regulation, *Environmental Research* 132:233 – 243
2. Produced first known data on lead content in paints from Armenia and Kazakhstan. Study conducted in conjunction with Khazer Ecological and Cultural Non-Governmental Organization (Armenia) and Greenwomen (Kazakhstan), both members of IPEN network, and with financial support from US Environmental Protection Agency. Results published in article indicated in #1 above.
3. Participated in IPEN/EU Floor Dust Wipe Lead Survey in Seven Asian Countries which represented the first dust lead testing in six of the countries. Preparation of reports underway. The reports include guidance on how to reduce lead exposures in residences, day care centers and schools where the potential for exposure to high levels of floor dust lead has been documented.
4. Participated in the IPEN/EU Lead Paint Elimination Project in seven Asian countries and in preparation of reports on first round of lead paint testing and in planning for second round to document progress made in lead paint elimination. Report available in IPEN website.
5. Served as Principal Investigator in IPEN UNEP Nine Country Lead Paint Testing Project and as a co-author of project report which included a summary of new paint lead testing performed in recent years. Report available on UNEP and IPEN websites.
6. Prepared report on a follow-up on new lead paint testing in Cairo, Egypt. Publication: Clark S, Menrath W, Zakaria Y, El-Safty A, Roda S M, Lind C, Elsayed E, Peng, H (2014) Follow-up on High Lead Concentrations in New Enamel Decorative Enamel Paints Available in Egypt, Environment and Pollution. 3,1,33-40.
7. Participated in a study of total lead concentration (ppm) of decorative enamel paints in three countries where such testing had not been previously undertaken and which are located in different areas of the world. This project was a cooperative effort between IPEN, three of its member organizations (IndyACT in Lebanon, ALTERVIDA in Paraguay, and EcoAccord in Russia) and the University of Cincinnati. A publication on the results is under preparation.

8. Served as co-chair of the GAELP Focus to develop the UNEP brochure “Elements of a National Regulatory Framework for the Control of Lead in New Paint” which is being presented at the GAELP Legislative and Regulatory Workshop in Delhi.

Switzerland´s Submission

REPUBLIQUE ET CANTON DE GENEVE
Département de l'environnement, des transports et de l'agriculture
Service de toxicologie de l'environnement bâti

Here are presented the main actions that were taken in Geneva since 2013 to contribute to the decrease of lead exposure.

As lead paints were banned in Switzerland in 2005, we focused on exposure through old paints and exposure during paint works.

Improving the reliability of lead detection

- We conducted a study to compare different analytical approach for measuring the lead content of paint in field samples. This study was published in the *Journal of Occupational and Environmental Hygiene*. (http://oeh.tandfonline.com/doi/full/10.1080/15459624.2014.880788 - .VAjOR0qwq7Y)

- We published a guideline describing how a lead paint investigation should be conducted and documented :(http://etat.geneve.ch/dt/SilverpeasWebFileServer/Pb_DirectiveSTEB_Diagnostic_version_1_20130823__sans_utilisation_normale_.pdf?ComponentId=kmelia247&SourceFile=1377614825573.pdf&MimeType=application/pdf&Directory=Attachment/Images/)

Lead paint occurrence

- We investigated 200 flats in Geneva in order to estimate the occurrence of lead paint. The data treatment is still in progress but the occurrence of lead pain (mainly in good condition) will be around 50%.

Raising awareness about lead paint

- In 2012, we set up a part of a permanent exhibition about security on building sites. The threats and safe management of asbestos, PCB and lead paints are covered. http://www.fmb-ge.ch/metiersformations/parcours-securite.html

Lead paint occurrence

- We investigated 200 flats in Geneva in order to estimate the occurrence of lead paint. The data treatment is still in progress but the occurrence of lead pain (mainly in good condition) will be around 50%.

Raising awareness about lead paint

- In 2012, we set up a part of a permanent exhibition about security on building sites. The threats and safe management of asbestos, PCB and lead paints are covered. http://www.fmb-ge.ch/metiersformations/parcours-securite.html

- In October 2013, we launched an information campaign about asbestos, PCB and lead paints. This campaign in planned for at least 3 years and is intended for professionals as well as for the general public. It consists of documentation (http://www.travaux-sans-danger.ch/fr/publications, a mobile exhibition trailer (pictures are shown on the internet site) and an internet site translated in different languages (http://www.travaux-sans-danger.ch/fr/home),…

Safe handling of lead paints

- We published a guideline describing how workers, especially painters, should safely handle lead paints.

(http://etat.geneve.ch/dt/SilverpeasWebFileServer/Pb_DirectiveSTEB_Assainissement_version_1_20130830__sans_utilisation_normale_.pdf?ComponentId=kmelia247&SourceFile=1377860966899.pdf&MimeType=application/pdf&Directory=Attachment/Images/)

Paraguay´s Submission

REPORTE NACIONAL

PLOMO EN LAS PINTURAS DE ACEITE PARA EL HOGAR EN PARAGUAY

Noviembre 2013

IPEN
un futuro sin tóxicos

Reporte Nacional
Plomo en las pinturas de aceite para el hogar en Paraguay

Agradecimientos

Esta publicación ha sido elaborada apoyo de la Agencia de Protección Ambiental de Suecia y la Agencia Sueca de Cooperación Internacional a través de la Sociedad Sueca para la Conservación de la Naturaleza, (SSNC). Las opiniones aquí expresadas no necesariamente debe considerarse que refleja la opinión oficial de SSNC o de sus donantes.

Agradecemos a Fernando Bejarano, Punto de enlace de IPEN en América Latina por su apoyo en la lucha contra las sustancias tóxicas en Paraguay.

AlterVida
Itapúa 1372 c/Primer Presidente
Barrio Trinidad
Telf: (595) 21 208 8420
Email: info@altervida.org.py
Asunción, Paraguay

http://www.altervida.org.py

Noviembre 2013

Reporte Nacional

Plomo en las pinturas de aceite para el hogar en Paraguay

Preparado por:

Hebe González
Daniela Solís
Mario Paredes
Dr. Sara Brosché
Valerie Denney
Dr. Scott Clark, Professor Emeritus
Jack Weinberg

Prólogo

Este informe presenta información sobre el contenido de plomo de las pinturas decorativas de esmalte a la venta en Paraguay, compradas en octubre de 2011. Es la primera vez que se analiza este tipo de pinturas en Paraguay con el fin de determinar si contienen altos niveles de plomo. En este informe detallamos los resultados del análisis de 15 pinturas decorativas de esmalte, al aceite, para determinar su contenido de plomo. También revisamos los marcos normativos vigentes en el país en materia de prohibiciones o restricciones para la fabricación, importación, venta y uso a nivel nacional de pinturas con plomo para el hogar.

El informe también entrega antecedentes sobre por qué el uso de pinturas para el hogar con alto contenido de plomo es una fuente de grave preocupación, especialmente en materia de salud infantil. Y propone recomendaciones para adoptar medidas destinadas a proteger la salud de los niños y de otras personas del plomo en las pinturas.

El estudio se emprendió con el fin de establecer si el contenido de plomo en las pinturas para el hogar constituye un problema en Paraguay y no tuvo la intención de ser una inspección completa del mercado. Por lo tanto, el estudio incluye solamente un conjunto limitado de muestras, pero suficiente para reconocer que algunas pinturas disponibles en el mercado contienen altos niveles de plomo. Considerando que las pinturas analizadas fueron compradas hace dos años, es posible que se hayan producido algunos cambios desde entonces. Sin embargo, dado que en ese lapso no ha entrado en vigor ninguna ley que limite el contenido de plomo de las pinturas para el hogar, sigue faltando un incentivo poderoso para que se produzca un cambio.

El estudio corresponde a un esfuerzo cooperativo entre IPEN, la Universidad de Cincinnati, de Estados Unidos, y la organización no gubernamental Alter Vida de Paraguay.

Alter Vida es una ONG paraguaya, sin fines de lucro. Nuestro propósito es promover la investigación, la educación y la capacitación en temas ambientales.

La visión de Alter Vida es ser una "organización civil comprometida con el desarrollo sostenible y reconocida por la calidad de su gestión". Su misión es "Desarrollar y promover sistemas de gestión socio ambiental orientados a los derechos para lograr un Paraguay sostenible".

IPEN es una ONG internacional constituida por una red de organizaciones de salud y medio ambiente de todas las regiones del mundo, en la que participa Alter Vida. IPEN es una destacada organización mundial que trabaja para establecer y aplicar políticas y prácticas de seguridad de los productos químicos a fin de proteger la salud humana y el medio ambiente. Su misión es un futuro libre de tóxicos para todos. IPEN contribuye a desarrollar las capacidades de sus organizaciones miembros para poner en práctica acciones en terreno, aprender del trabajo de cada una, y trabajar a nivel internacional para establecer prioridades y lograr la aprobación de nuevas políticas.

Abreviaciones

AIHA	Asociación Estadounidense de Higiene Ambiental
CDC	Centros para el Control y la Prevención de Enfermedades
ELPAT	Environmental Lead Proficiency Analytical Testing
UE	Unión Europea
GAELP	Alianza Global para Eliminar la Pintura con Plomo
ICCM	Conferencia Internacional sobre la Gestión de Productos Químicos
ONG	Organización No Gubernamental
Pb	Plomo
Ppm	Partes por millón
SAICM	Enfoque Estratégico para la Gestión Internacional de Químicos
PYME	Pequeñas y medianas empresas
SSNC	Sociedad para la Conservación de la Naturaleza
PNUMA	Programa Ambiental de las Naciones Unidas
OMS	Organización Mundial de la Salud

Contenido

Resumen ejecutivo

En octubre de 2011, la ONG AlterVida adquirió 15 latas de pinturas decorativas de esmalte[1] en ferreterías locales y en importadores de pintura de Asunción y sus alrededores. Las muestras de pintura fueron analizadas para determinar su contenido total de plomo (peso seco) por el Laboratorio H & E, de la Universidad de Cincinnati (UC). Este laboratorio está acreditado por la Asociación Estadounidense de Higiene Ambiental (AIHA) conforme al Programa de acreditación de laboratorios de plomo ambiental de la Agencia de Protección Ambiental de Estados Unidos (US EPA)[2]. El laboratorio participa también en el programa ELPAT (Environmental Lead Proficiency Analytical Testing) operado por AIHA.

Resumen de los resultados de los niveles de plomo en la pintura

Número de pinturas analizadas	15
Porcentaje de pinturas analizadas con concentraciones de plomo superiores a 90 ppm	27%
Porcentaje de pinturas analizadas con concentraciones de plomo superiores a 600 ppm	27%
Porcentaje de pinturas analizadas con concentraciones de plomo superiores a 10.000 ppm	20%
Mayor concentración de plomo detectada	169.000 ppm

Cuatro de las 15 pinturas analizadas contenían plomo en concentraciones superiores al límite aceptable de 90 ppm y superiores también a 600 ppm. Tres de las pinturas contenían niveles peligrosamente altos de plomo, superiores a 10.000 ppm.

El nivel más alto detectado fue de 169.000 ppm, en una pintura amarilla. Este nivel supera aproximadamente 1.880 veces el límite aceptable de 90 ppm.

Este informe confirma hallazgos anteriores que indican que las pinturas de colores brillantes contienen las concentraciones más altas de plomo.[3] El 50% de las pinturas rojas (una de dos pinturas) y el 40% de las pinturas amarillas (dos de cinco pinturas) no solo contenían niveles de plomo superiores a 90 ppm, sino también niveles peligrosamente altos, superiores a 10.000 ppm. Solo una de las cinco pinturas blancas contenía niveles de plomo superiores a 600 ppm.

1 El término "pintura decorativa" se refiere en este informe a las pinturas producidas para su uso en muros y superficies interiores y exteriores de hogares, escuelas, edificios comerciales y estructuras similares. Las pinturas decorativas se usan con frecuencia en puertas, portones y ventanas y para repintar muebles del hogar tales como cunas, corralitos, mesas y sillas. El término "esmalte" se refiere en este informe a las pinturas a base de aceite.

2 El programa de acreditación operado por AIHA cumple todos los requisitos de los programas internacionales que cumplen con la norma ISO/IEC 17025 y por consiguiente, con la norma ISO/IEC 17011. AIHA es miembro de pleno derecho de la Cooperación Internacional de Acreditación de Laboratorios (ILAC). El programa de acreditación de AIHA es reconocido mundialmente.

3 C. Scott Clark, et al, Lead levels in new enamel household paints from Asia, Africa and South America, Environmental Research, Volume 109, Issue 7, October 2009, Pages 930-936, ISSN 0013-9351, http://dx.doi.org/10.1016/j.envres.2009.07.002.

Las pinturas analizadas corresponden a cinco marcas, dos fabricadas en Paraguay y tres en Brasil. Las tres marcas fabricadas en Brasil tienen sus sedes en Brasil, Estados Unidos y Alemania, respectivamente. Ninguna de las pinturas fabricadas en Brasil contenía niveles de plomo superiores a 90 ppm, mientras que cuatro de las pinturas fabricadas en Paraguay contenían altos niveles de plomo. De hecho, tres de las pinturas fabricadas en Paraguay contenían niveles de plomo peligrosamente altos (superiores a 10.000 ppm). Estas pinturas pertenecían a las dos marcas paraguayas incluidas en el estudio.

Conclusiones y recomendaciones

Este estudio muestra que en las pinturas decorativas de esmalte que se venden en Paraguay se encuentran altos niveles de plomo.

Además, mientras las pinturas producidas en Paraguay contienen altos niveles de plomo, las pinturas producidas en Brasil contienen bajos niveles de plomo. Aunque el número de pinturas incluidas en este estudio es limitado, parece ser el único estudio de este tipo que se haya realizado. Los resultados indican que podría ser motivo de preocupación el que otros fabricantes nacionales de pinturas, no incluidos en este estudio, también puedan producir pinturas con un alto contenido de plomo.

La mayoría de los países vecinos de Paraguay tienen legislación vigente que limita el contenido permitido de plomo de las pinturas decorativas de esmalte. Por ejemplo, Brasil, Argentina y Uruguay establecieron como límite 600 ppm. Las ONG asociadas a IPEN promueven generalmente la norma de 90 ppm, por considerarla totalmente posible y que brinda protección. Resulta claro que en Paraguay debe introducirse también una legislación sobre las concentraciones de plomo permitidas en las pinturas, además de un mecanismo que asegure su cumplimiento.

Alter Vida recomienda:

Al gobierno y agencias relevantes: Regular el contenido de plomo de las pinturas que se importan, fabrican y venden, fijando un máximo de 90 partes por millón (ppm) de contenido total de plomo, peso seco. Se debe exigir que las etiquetas de las latas de pintura adviertan a los usuarios sobre los peligros del polvo y otros materiales contaminados con plomo, cuando se raspan o se lijan superficies anteriormente pintadas, como preparación para repintarlas.

Al sector privado: Recomendamos enfáticamente realizar el cambio a alternativas más seguras, sin plomo, como ingredientes de las pinturas. Estos materiales sustitutos están disponibles en el mercado a un precio asequible.

A los consumidores, ciudadanos y organizaciones: Elegir pinturas sin plomo al momento de la compra, para proteger la salud de los niños y de todos los miembros de la familia.

A todas las partes interesadas: Cooperar para establecer un sistema fiable de certificación por terceros del contenido de plomo en la pintura, a fin de garantizar que las pinturas que se venden en el mercado cumplen el límite aceptable de 90 ppm. Incentivar la capacitación en prácticas de trabajo seguro con plomo, para pintores y otras personas cuando trabajen en superficies anteriormente pintadas, a fin de reducir al mínimo las exposiciones.

Introducción y antecedentes sobre el tema del plomo en la pintura

El plomo es un metal tóxico que puede encontrarse en las pinturas cuando un fabricante, para un fin determinado, agrega intencionalmente uno o más compuestos de plomo a la pintura. Los compuestos de plomo que con mayor frecuencia se agregan a las pinturas son pigmentos que le dan el color a la pintura. Entre los compuestos usados comúnmente como pigmentos para pintura están los cromatos de plomo, óxidos de plomo, molibdatos de plomo y sulfatos de plomo. Estos se agregan para producir colores brillantes, como amarillo, rojo y verde. También pueden agregarse compuestos de plomo a la pintura para que actúen como agentes secantes y catalizadores en las pinturas a base de aceite. Estos compuestos permiten que la pintura se seque en forma más rápida y pareja. Algunas veces se agregan agentes de resistencia a la corrosión, a base de plomo, a las pinturas que se usan sobre superficies metálicas, con el fin de inhibir la herrumbre y la corrosión. El más común es el tetróxido de plomo, llamado a veces plomo rojo o minio.

Desde la década de 1980, e incluso antes, ha existido amplia disponibilidad de sustitutos buenos y rentables para todos los compuestos de plomo que se usan en la elaboración de pinturas para el hogar. Cualquier fabricante de pinturas que actualmente produzca pinturas para el hogar con compuestos de plomo añadidos podría reformular fácilmente sus pinturas, usando estos sustitutos con escaso (o nulo) impacto en las características o en el precio de las pinturas que produce. No existe una buena razón para que un fabricante de pinturas continúe produciendo pinturas con compuestos de plomo agregados, especialmente si se tienen en cuenta los graves y bien documentados peligros para la salud infantil asociados a la pintura con plomo.

Cuando un fabricante de pintura no agrega intencionalmente compuestos de plomo en la formulación de sus pinturas, el contenido de plomo de la pintura será muy bajo –casi siempre menos de 90 partes por millón (plomo total, peso seco). Si un fabricante de pintura es cuidadoso en la elección de ingredientes que no contengan plomo como contaminante, el contenido de plomo de la pintura será a menudo tan bajo como 10 partes por millón o menos.

Alter Vida e IPEN recomiendan 90 ppm de plomo en la pintura como una meta mundial posible de alcanzar y que brinda protección. Aunque las organizaciones internacionales de salud creen por lo general que ningún nivel de exposición al plomo es seguro, 90 ppm es la norma actual para las pinturas de uso casero en Estados Unidos y Canadá y garantizaría que un fabricante puede vender su pintura en cualquier lugar del mundo.

En casi todos los casos en que se han hecho estudios recientes, las pinturas al agua (llamadas a veces pinturas látex o acrílicas) no contienen plomo agregado. Por otro lado, en la mayoría de los países en desarrollo y países con economías en transición donde se ha han hecho recientemente análisis de las pinturas para conocer su contenido de plomo pinturas, se observó que muchas de las pinturas decorativas de esmalte tienen un alto contenido de plomo. Por esta razón, en el presente estudio, Contenido de plomo de las pinturas para el hogar en Paraguay, se decidió analizar únicamente las pinturas al aceite para conocer su contenido de plomo.

Exposición de los niños al plomo y sus efectos en la salud

Generalmente los niños no están expuestos al plomo de la pintura cuando la pintura aún está en la lata o cuando se está aplicando recién a una superficie no pintada o no recubierta anteriormente. Más bien, la exposición al plomo ocurre por lo general después de que la pintura con plomo se ha secado en la pared o en el artículo que ha sido pintado.

Las superficies pintadas envejecen, se desgastan y descascaran con el tiempo. El plomo que está en la pintura se incorpora al polvo y la tierra del interior y el exterior, dentro y alrededor de la casa o el edificio pintados. Los niños tienen la curiosidad innata de explorar su mundo y adoptan la conducta apropiada para su desarrollo de llevarse todo a la boca. Cuando juegan en ambientes contaminados con plomo, el polvo y la tierra que ingieren tendrán plomo. Esto es especialmente cierto en el caso de los niños de seis años y menos, el grupo etáreo que más sufre los daños de la exposición al plomo. Por ejemplo, un niño típico de entre uno y seis años de edad ingiere aproximadamente 100 miligramos de polvo y tierra cada día.[4]

Las cascarillas de pinturas pueden ser especialmente dañinas porque su contenido de plomo puede ser mucho más alto que el que se encuentra generalmente en el polvo y la tierra. En algunos casos, los niños recogen las cascarillas de pintura y se las llevan a la boca. Además, cuando los juguetes u otros artículos están pintados con pintura con plomo, los niños pueden masticarlos e ingerir directamente la pintura seca contaminada con plomo. Sin embargo, se piensa que la forma más común en que los niños ingieren plomo es a través del polvo que contiene plomo.

Los niños y los trabajadores enfrentan un riesgo mayor cuando las superficies que habían sido pintadas previamente con pintura con plomo se repintan o sufren alteraciones debido a trabajos de construcción u otras actividades. Los trabajadores pueden lijar, raspar en seco, pulverizar o alterar en otras formas la antigua superficie pintada y producir así grandes cantidades de polvo con un contenido de plomo muy elevado.

La exposición al plomo es mucho más dañina para los niños que para los adultos, y los efectos en la salud son por lo general irreversibles y pueden tener un impacto a lo largo de toda la vida.[5] Mientras menor es el niño, más dañino puede ser el plomo. El feto humano es el más vulnerable y una mujer embarazada puede transferir el plomo que se ha acumulado en su cuerpo al de su hijo en gestación. Esto significa que el plomo puede envenenar a varias generaciones y no solo a una persona durante la exposición activa.

Una vez que el plomo entra al cuerpo de un niño mediante la ingestión o inhalación, o a través de la placenta, tiene la posibilidad de dañar numerosos sistemas y vías biológicos. El blanco principal es el sistema nervioso central y el cerebro, pero también puede afectar el sistema sanguíneo, los riñones y el esqueleto.

En general se reconoce que un elemento fundamental de la toxicidad del plomo es su capacidad para reemplazar el calcio en los sistemas neurotransmisores, las proteínas y la estructura ósea, alterando su función y estructura y ocasionando por consiguiente graves impactos en la salud. Se sabe también que el plomo afecta y daña la estructura celular.[6]

---

4 World Health Organization, 2010,Childhood Lead Poisoning, p.18.

5 World Health Organization, 2010,Childhood Lead Poisoning, p.12.

6 Verstraeten, S.V., et al, "Aluminium and lead: molecular mechanisms of brain toxicity" (Archives of Toxicology 82:789–802. DOI 10.1007/s00204-008-0345-3, 2008).

Los niños son más sensibles que los adultos a los efectos dañinos del plomo por varias razones, incluyendo[7]:

El cerebro de un niño experimenta un crecimiento, desarrollo y diferenciación muy rápidos y el plomo interfiere con este proceso. Por ejemplo, se ha mostrado que la exposición moderada al plomo (5 a 40 ug/dL) durante la primera infancia está vinculada a reducciones específicas por región en el volumen de materia gris en los adultos. Se ha vinculado la presencia de niveles moderados de plomo en la sangre con una probabilidad aumentada de deterioro de la función cognitiva y ejecutiva, de impulsividad, agresividad y comportamiento delictivo. La pérdida de materia gris en el cerebro constituye una posible explicación para los problemas cognitivos y conductuales asociados a la exposición al plomo.[8] El daño cerebral causado por la exposición crónica a bajos niveles de plomo es irreversible y no tiene tratamiento.

La exposición temprana al plomo puede reprogramar los genes, lo que puede dar lugar a una expresión genética alterada y a un mayor riesgo asociado de enfermedad más adelante en la vida. Por ejemplo, las alteraciones genéticas causadas por la exposición prenatal al plomo han sido implicadas en el desarrollo de la enfermedad de Alzheimer.[9]

La absorción gastrointestinal de plomo es más elevada en la niñez. Los niños absorben hasta el 50 por ciento del plomo ingerido, en comparación con el 10 por ciento que absorben los adultos. (Las mujeres embarazadas también pueden absorber más el plomo ingerido que otros adultos.)[10]

Las evidencias de la reducción de la inteligencia causada por la exposición infantil al plomo llevó a la Organización Mundial de la Salud (OMS) a incluir el "retardo mental causado por el plomo" entre las enfermedades reconocidas. La OMS lo incluye también entre las diez principales enfermedades cuya carga para la salud infantil se debe a factores ambientales modificables.[11]

En años recientes, los investigadores médicos han estado documentando importantes impactos en la salud infantil debidos a exposiciones al plomo cada vez más bajas.[12] [13] En respuesta a ello, los Centros para el Control y la Prevención de Enfermedades de Estados Unidos (CDC) y otras autoridades concluyeron que no se conoce ningún nivel aceptable de exposición al plomo para los niños.[14]

Un estudio reciente que investigó el impacto económico de la exposición infantil al plomo en las economías nacionales de todos los países con ingreso bajo y medio calculó una carga acumulativa total

---

7 World Health Organization, Childhood Lead Poisoning, http://www.who.int/ceh/publications/leadguidance.pdf , 2010.

8 Cecil, K.M., et al., "Decreased Brain Volume in Adults with Childhood Lead Exposure" (PLOS Medicine (2008) 5(5): e112. DOI:10.1371/journal.pmed.0050112).

9 Mazumdar, M., et al, "Prenatal Lead Levels, Plasma Amyloid β Levels, and Gene Expression in Young Adulthood," (Environmental Health Perspectives (2012) 120 (5)).

10 World Health Organization, Childhood Lead Poisoning, http://www.who.int/ceh/publications/leadguidance.pdf , 2010.

11 World Health Organization, 2006.Preventing disease through healthy environments, p. 6. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf

12 Herbert Needleman, "Lead Poisoning,"(Annual Review of Medicine 2004, http://www.rachel.org/files/document/Lead_Poisoning.pdf)

13 Bruce P. Lanphear et al., "Low-Level Environmental Lead Exposure and Children's Intellectual Function: An International Pooled Analysis" (Environ Health Perspectives. 2005 July; 113(7): 894–899 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257652/)

14 Centers for Disease Control and Prevention, Blood Levels in Children Aged 1-5 Years – United States, 1999-2010, (Morbidity and Mortality Weekly Report http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6213a3.htm?s_cid=mm6213a3_w)

de costos de 977 mil millones de dólares internacionales[15] por año.[16] El estudio consideró los efectos en el desarrollo neurológico de los niños expuestos al plomo, medidos de acuerdo a la reducción del puntaje de CI, y correlacionó la reducción del puntaje de CI en los niños vinculada a la exposición al plomo, con la reducción de la productividad económica a lo largo de la vida, expresada en la capacidad del niño para tener ingresos a lo largo de la vida. El estudio identificó varias fuentes distintas de exposición al plomo en los niños, siendo la pintura con plomo una de las fuentes principales. Desglosada según regiones, la carga económica de la exposición infantil al plomo, según lo calculó este estudio, es la siguiente:

- África: $134.700 millones en pérdidas económicas, o el 4,03% del Producto Interno Bruto (PIB)
- América Latina y el Caribe: $142.300 millones en pérdidas económicas en América Latina y el Caribe o el 2,04% del PIB
- Asia: $699.900 millones en pérdidas o el 1,88% del PIB

Se calculó que el costo asociado con la exposición infantil al plomo en Paraguay es de $1.261.327.670 en pérdidas o el 3,45% del PIB, vale decir, mucho más que el promedio de 2,04% para la región.

15 El dólar internacional es una unidad monetaria usada por los economistas y las organizaciones internacionales para comparar el valor de diferentes monedas. Ajusta el valor del dólar de Estados Unidos para que refleje las tasas de intercambio internacional, la paridad de poder adquisitivo y los precios promedio de productos básicos en cada país. Según el Banco Mundial, "Un dólar internacional tiene el mismo poder adquisitivo sobre el PIB que el que posee el dólar de los Estados Unidos en ese país." Los valores del dólar internacional de este informe se calcularon a partir de una tabla del Banco Mundial que muestra el PIB per cápita por país, en base a la paridad de poder adquisitivo y expresado en dólares internacionales. Los datos de la tabla (en: http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD) fueron consultados por los autores del informe en febrero de 2012.

16 Economic Costs of Childhood Lead Exposure in Low and Middle Income Countries, by Teresa M. Attina and Leonardo Trasande; Environmental Health Perspectives; DOI:10.1289/ehp.1206424;

Los esfuerzos mundiales para eliminar la pintura con plomo

El uso de plomo en las pinturas para el hogar es un asunto de preocupación mundial. En la segunda sesión de la Conferencia Internacional sobre la gestión de los productos químicos (ICCM), realizada en 2009, hubo consenso para identificar varios temas relacionados con sustancias químicas como asuntos de interés prioritario a nivel internacional.[17] En esta conferencia y en sus decisiones participaron representantes del Gobierno de Paraguay. Una de estas fue la decisión de establecer el plomo en las pinturas como una nueva cuestión normativa. En respuesta a la decisión de la ICCM, el Programa de las Naciones Unidas para el Medio Ambiente (PNUMA) y la Organización Mundial de la Salud (OMS) establecieron una asociación mundial para eliminar el uso de compuestos de plomo en la pintura a fin de proteger la salud pública y el medio ambiente. Esta asociación se denomina Alianza Mundial para Eliminar el Uso del Plomo en la Pintura (GAELP).[18] El objetivo general de GAELP es la eliminación gradual de la fabricación y venta de pinturas que contengan plomo y finalmente eliminar los riesgos derivados de estas pinturas.[18]

En 2012 se realizó la tercera reunión de la ICCM. Un representante del Gobierno de Paraguay asistió también a esta reunión. La Conferencia acordó por consenso hacer un llamado a los gobiernos, las organizaciones de la sociedad civil, y el sector privado para que contribuyan a la labor de GAELP en diversas formas, incluyendo las siguientes:

> Creando conciencia sobre la toxicidad del plomo en la pintura para la salud humana, especialmente para los niños pequeños, las personas que utilizan pinturas y los trabajadores de las plantas de fabricación de pinturas;
>
> Llenando los vacíos de información, mediante el análisis de las pinturas para determinar su contenido de plomo en los países donde hay escasa o nula información disponible;
>
> Promoviendo los marcos regulatorios nacionales, según proceda, para poner fin a la fabricación, importación, exportación, venta y uso de pinturas con plomo y productos recubiertos con pinturas con plomo;
>
> Incentivando a las empresas fabricantes de pinturas para que sustituyan los compuestos de plomo agregados a la pintura por alternativas más seguras: y
>
> Estableciendo programas de prevención para reducir la exposición en el interior y alrededor de las casas, guarderías infantiles, escuelas y otros edificios donde se usó pintura con plomo en el pasado.

17 (http://www.saicm.org/Images/saicm_documents/Iccm/ICCM2/ICCM2%20Report/ICCM2%2015%20FINAL%20REPORT%20E.doc)

Marco para la eliminación de la pintura con plomo en Paraguay

Prácticamente todos los países altamente industrializados tiene leyes o regulaciones que han estado vigentes desde la década de 1980 o antes, para controlar el contenido de plomo de las pinturas decorativas. En 2008, como respuesta a la creciente preocupación por la exposición infantil al plomo y las nuevas evidencias acerca del impacto de las dosis bajas, el Congreso de Estados Unidos aprobó una ley, firmada por el Presidente, que revisó el límite máximo previo de 600 ppm para el plomo en las pinturas decorativas y fijó en 90 ppm el nuevo límite.[20] Este límite se aplica a la pintura y otros revestimientos de superficie similares usados en juguetes, en otros artículos destinados al uso por parte de los niños, y en ciertos ítems de mobiliario. La prohibición se aplica a las pinturas usadas en residencias, escuelas, hospitales, parques, patios de juego y edificios públicos u otras áreas donde los consumidores tengan acceso directo a la superficie pintada.[21] Canadá también estableció un límite similar, y en 2009, la Unión Europea impuso nuevos controles, muy estrictos, sobre la producción y uso de pigmentos de plomo.

Argentina, Brasil, Chile, Sri Lanka y Uruguay establecieron recientemente, a través de decretos con fuerza de ley, un máximo admisible de concentración de plomo de 600 ppm en pinturas decorativas de esmalte y prohibieron la producción e importación de pinturas con una concentración de plomo superior a ese límite.[22] Sri Lanka estableció 90 ppm como límite máximo para pinturas en emulsión y pinturas para juguetes infantiles. En Paraguay ninguna ley limita el uso de plomo en las pinturas de esmalte para el hogar.

Durante décadas las pinturas para el hogar que se producen para la venta en países altamente industrializados no han utilizado compuestos de plomo agregados como pigmentos, agentes secantes o para otros propósitos. La mayoría de los fabricantes que producen pinturas para la venta en los países en desarrollo conocen la razón de esto. Es lamentable que aún se produzcan, vendan y utilicen pinturas con plomo para uso doméstico. Esta práctica ahora debe terminar.

El mercado de las pinturas en Paraguay

Las pinturas que se venden en el mercado paraguayo son de origen nacional e internacional. Las dos marcas principales fabricadas en Paraguay son Albalux y Bambilux. Tres marcas vendidas en Paraguay son fabricadas en Brasil: Novacor (propiedad de Sherwin Williams), Sunivil (propiedad de BASF) y Coral Paints.

---

20 http://www.cpsc.gov/PageFiles/109515/cpsia.pdf

21 United States Consumer Products Safety Commission, FAQs: Lead in Paint (And Other Surface Coatings) (http://www.cpsc.gov/en/Business--Manufacturing/Business-Education/Lead/FAQs-Lead-In-Paint-And-Other-Surface-Coatings/)

22 Argentina: http://www.puntofocal.gov.ar/formularios/registro_arg04.php
Brazil: http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Lei/L11762.htm
Chile: http://saremi9.redsalud.gob.cl/wrdpress_minsal/wp-content/uploads/2012/05/ds_374-FIJA-LIMITE-MAXIMO-PERMISIBLE-DE-PLOMO-EN-PINTURAS-QUE-INDICA.pdf
Sri Lanka: http://www.caa.gov.lk/web/index.php?option=com_content&view=article&id=112%3Agazettes&catid=51%3Agazettes&Itemid=122&lang=en
Uruguay: http://www.mvotma.gub.uy/images/Decreto%2069-011%20Diario%20Oficial.pdf

Materiales y métodos

En octubre de 2011, la ONG Alter Vida, con ayuda y respaldo de IPEN, compró 15 latas de pinturas decorativas de esmalte en tiendas de los barrios Loma Pyta, Aviadores del Chaco y Trinidad, de la ciudad de Asunción, Paraguay.

Estas pinturas eran de 5 marcas distintas. En la mayoría de los casos, se seleccionó una de color blanco y una de un color brillante, como rojo o amarillo. La disponibilidad de estas pinturas en locales de venta minorista sugería que estaban destinadas al uso en ambientes domésticos. Se excluyeron las pinturas automotrices y las pinturas industriales que no se usan generalmente para aplicaciones domésticas o para pintar juguetes.

Los kits de preparación de muestras de pintura contenían piezas de madera sin tratar; brochas para utilizar una sola vez y utensilios para revolver la pintura hechos de palillos de madera sin tratar y fueron armados y enviados a Alter Vida por personal de la Universidad de Cincinnati (UC). Cada pintura fue revuelta concienzudamente en la lata, aplicada con una brocha individual nueva, para utilizar una sola vez, a piezas de madera duplicadas, sin uso, numeradas individualmente, por personal de Alter Vida.

Cada utensilio para revolver y cada brocha se usó una sola vez, y se tomaron precauciones para evitar la contaminación cruzada. Una vez secas, las piezas de madera fueron colocadas en bolsas plásticas individuales y enviadas a la UC para el análisis de contenido de plomo. Allí fueron analizadas por el Laboratorio H & E, acreditado por la Asociación Estadounidense de Higiene Ambiental (AIHA), conforme al Programa de acreditación de laboratorios de plomo ambiental de la Agencia de Protección Ambiental de Estados Unidos (US EPA). El programa de acreditación operado por AIHA llena todos los requisitos de los programas internacionales que cumplen la norma ISO/IEC 17025 y por consiguiente, la norma ISO/IEC 17011. AIHA es miembro de pleno derecho de la Cooperación Internacional de Acreditación de Laboratorios (ILAC). El programa de acreditación de AIHA goza de reconocimiento mundial. El Laboratorio H & E también participó en el programa ELPAT (Environmental Lead Proficiency Analytical Testing) operado por AIHA conforme a procedimientos establecidos por la US EPA.

En el laboratorio H & E, la pintura fue removida cuidadosamente de la superficie de madera mediante un raspador pintura limpio y afilado, cuidando de no remover porciones de la madera. Las raspaduras de pintura se procesaron con ácido nítrico y peróxido de hidrógeno, de acuerdo al método denominadoStandard Operating Procedures for Lead in Paint by Hotplate or Microwave-based Acid Digestions and Atomic Absorption or Inductively Coupled Plasma Emission Spectroscopy, EPA, P892-114172, September 1991 (US EPA, 2001). Los extractos fueron analizados mediante espectroscopía de absorción atómica de llama, usando un espectrómetro Perkin-Elmer 5100. Se utilizaron estrictos procedimientos de control, de acuerdo con las pautas de acreditación.

Resultados

El 27 por ciento de las pinturas analizadas contenían niveles de plomo superiores al límite de 90 ppm y su venta no sería permitida en Estados Unidos. Se encontraron niveles de plomo peligrosamente altos (sobre 10.000 ppm) en el 20 por ciento de todas las pinturas analizadas.

Un total de 15 latas nuevas de pintura decorativa de esmalte correspondientes a cinco marcas fueron compradas en Paraguay y analizadas para conocer su contenido total de plomo. Cuatro de las 15 pinturas contenían niveles de plomo superiores a 90 ppm. En el Cuadro 1 se presenta un resumen de los resultados del análisis, y en el Apéndice 1 se incluyen los resultados y los detalles de las pinturas. Los resultados de las muestras están expresados en partes por millón (ppm), en base al peso seco de la muestra.

Cuadro 1 Resumen de los resultados del análisis de las pinturas

Número de pinturas analizadas	15
Número de pinturas con concentración de plomo inferior a 90 ppm	11 (73%)
Número de pinturas con concentración de plomo superior a 90 ppm	4 (27%)
Número de pinturas con concentración de plomo superior a 600 ppm	4 (27%)
Número de pinturas con concentración de plomo superior a 10,000 ppm	3 (20%)
Mayor concentración de plomo detectada	169,000 ppm
Muestras de pinturas con concentración de plomo superior a 90 ppm	**Concentración de plomo**
P-02 (amarillo)	108.000 ppm
P-03 (rojo)	64.600 ppm
P-04 (blanco)	5.100 ppm
P-05 (amarillo)	169.000 ppm

Se encontraron concentraciones muy altas de plomo, superiores a 10.000 ppm en tres de las 15 pinturas analizadas, y una de las pinturas contenía 5.100 ppm de plomo. Todas estas pinturas no reunirían los requisitos para su venta en el mercado internacional. Las otras 11 pinturas contenían concentraciones bajas de plomo (inferiores a 90 ppm). La concentración más alta que se detectó fue de 169.000 ppm (Cuadro 1).

Concentración de plomo por marca

Dos de las marcas del estudio incluyen pinturas con un contenido de plomo superior al nivel aceptable de 90 ppm y ambas ofrecen además pinturas con niveles de plomo peligrosamente altos, superiores a 10.000 ppm.

Se detectó plomo a un nivel superior al límite aceptable de 90 ppm en una o más muestras de dos de las cinco marcas. Ambas marcas incluían pinturas con bajo y con alto contenido de plomo (Cuadro 2). En dos

pinturas, el contenido de plomo era superior a 100.000 ppm, es decir, superior al 10 por ciento del peso seco de la pintura.

Cuadro 2 Distribución de la concentración de plomo por marca de pinturas decorativas de esmalte compradas en Paraguay

Marca	Número de muestras	País de fabricación	Número de muestras sobre 90 ppm de plomo	Número de muestras sobre 600 ppm de plomo	Número de muestras sobre 10.000 ppm de plomo
Bambilux	3	Paraguay	2	2	2
Albalux	3	Paraguay	2	2	1
Novacor	3	Brasil	0	0	0
Coralit	3	Brasil	0	0	0
Suvinil	3	Brasil	0	0	0

De las cinco marcas, dos eran fabricadas en Paraguay y tres en Brasil. Las tres marcas fabricadas en Brasil tienen su sede en Brasil, Estados Unidos y Alemania, respectivamente. Ninguna de las pinturas fabricadas en Brasil contenía niveles de plomo superiores a 90 ppm, mientras que cuatro de las pinturas fabricadas en Paraguay contenían altos niveles de plomo. De hecho, tres de las pinturas fabricadas en Paraguay contenían niveles de plomo peligrosamente altos (superiores a 10.000 ppm). Estas pinturas correspondían a las dos marcas paraguayas.

Concentración de plomo por color

Las pinturas rojas y amarillas tienen la mayor posibilidad de contener niveles de plomo peligrosamente altos.

Las muestras de pinturas de colores brillantes (rojo y amarillo) eran las que con mayor frecuencia contenían niveles de plomo superiores a 90 ppm (Cuadro 3). Una muestra roja y dos amarillas contenían niveles de plomo peligrosamente altos, superiores a 10.000 ppm.

Cuadro 3 Contenido de plomo de las pinturas analizadas, por color

•	Número de muestras	Número de muestrassobre 90 ppm de plomo	Número de muestras sobre 600 ppm de plomo	Número de muestrassobre 10.000 ppm de plomo	Mínimo de ppm	Máximo de ppm
Blanco	5	1	1	0	5	5,100
Rojo	2	1	1	1	5	64,600
Amarillo	5	2	2	2	5	169,000
Otro	3	0	0	0	5	5

Discusión y conclusiones

Este estudio muestra que en las pinturas decorativas de esmalte que se venden en Paraguay se encuentran altos niveles de plomo. Esta es una grave preocupación en lo que respecta a la salud de los niños de Paraguay. También es probable que durante muchos años se hayan vendido pinturas con un alto contenido de plomo y que generaciones de niños ya hayan estado expuestos debido a las pinturas con plomo aplicadas en el pasado. Las casas donde se ha aplicado anteriormente pintura con plomo constituyen un riesgo de salud ambiental que debe manejarse en forma segura.

Además, las pinturas producidas en Paraguay contienen altos niveles de plomo, en tanto que las pinturas producidas en Brasil contienen bajos niveles de plomo. Aunque el número de pinturas incluidas en este estudio es limitado, esto indica que habría motivo de preocupación en lo que concierne a los fabricantes nacionales de pintura. Cuando aumente la conciencia pública sobre los riesgos de la pintura con plomo, aumentará también la demanda de pinturas que no contengan plomo añadido.

La mayoría de los países vecinos de Paraguay tienen leyes vigentes que limitan el contenido permitido de plomo de las pinturas decorativas de esmalte. Por ejemplo, Brasil, Argentina y Uruguay establecieron como límite 600 ppm. Las ONG asociadas a IPEN promueven generalmente la norma de 90 ppm como una meta totalmente alcanzable y que brinda protección. Resulta claro que en Paraguay también debe promulgarse una legislación sobre las concentraciones de plomo permitidas en las pinturas.

Recomendaciones

Alter Vida recomienda:

- Al gobierno y agencias relevantes: Regular el contenido de plomo de las pinturas que se importan, fabrican y venden, fijando un máximo de 90 partes por millón (ppm) de contenido total de plomo, peso seco. Se debe exigir que las etiquetas de las latas de pintura adviertan a los usuarios sobre los peligros del polvo y otros materiales contaminados con plomo, cuando se raspan o se lijan superficies anteriormente pintadas, como preparación para repintarlas.
- Al sector privado: Recomendamos enfáticamente realizar el cambio a alternativas más seguras, sin plomo, como ingredientes de las pinturas. Estos materiales sustitutos están disponibles en el mercado a un precio asequible.
- A los consumidores, ciudadanos y organizaciones: Elegir pinturas sin plomo al momento de hacer la compra, para proteger la salud de los niños y de todos los miembros de la familia.
- A todas las partes interesadas: Cooperar para establecer un sistema fiable de certificación por terceros del contenido de plomo en la pintura, a fin de garantizar que las pinturas que se venden en el mercado cumplen el límite aceptable de 90 ppm. Incentivar la capacitación en prácticas de trabajo seguro con plomo, para pintores y otras personas cuando trabajen en superficies anteriormente pintadas, a fin de reducir al mínimo las exposiciones.

Apéndice 1

Detalle de las pinturas decorativas de esmalte compradas en Paraguay y resultados del análisis del contenido de plomo

Muestra #	*Marca*	*Sede de la marca*	*País donde se fabricó la pintura*[2]	*Fecha de vencimiento*[3]	*Color*	*Contenido de plomo por AA*[4] *(ppm)*
P-01	Bambilux	Paraguay	Paraguay	Sin información	Blanco	5
P-02	Bambilux	Paraguay	Paraguay	Sin información	Amarillo	108000
P-03	Bambilux	Paraguay	Paraguay	Sin información	Rojo	64600
P-04	Albalux[1]	Paraguay	Paraguay	Sin información	Blanco	5100
P-05	Albalux[1]	Paraguay	Paraguay	Sin información	Amarillo	169000
P-06	Albalux[1]	Paraguay	Paraguay	Sin información	Rojo	5
P-07	Novacor	EE.UU.	Brasil	04/2013	Blanco	5
P-08	Novacor	EE.UU.	Brasil	02/2013	Amarillo	5
P-09	Novacor	EE.UU.	Brasil	09/2012	Tabaco	5
P-10	Coralit	Brasil	Brasil	01/2013	Blanco	5
P-11	Coralit	Brasil	Brasil	09/2012	Amarillo	5
P-12	Coralit	Brasil	Brasil	11/2011	Negro	5
P-13	Suvinil	Alemania	Brasil	01/2014	Blanco	5
P-14	Suvinil	Alemania	Brasil	02/2014	Amarillo	5
P-15	Suvinil	Alemania	Brasil	11/2014	Grafito	5

[1] **Producto con licencia de ICI.**
[2] **No se entregó información sobre la fecha de fabricación; algunas etiquetas contenían la fecha de vencimiento de la pintura.**
[3] **AA: Método de análisis de espectroscopia de absorción atómica.**

ALTERVIDA

Es una organización no gubernamental sin fines de lucro con la misión de desarrollar y promover sistemas de gestión socioambientales con enfoque de derechos para un Paraguay Sustentable.

IPEN

es una organización global que trabaja para establecer y aplicar políticas de seguridad química y prácticas que protejan la salud humana y el medio ambiente en todo el mundo. La misión de IPEN es lograr un futuro libre de tóxicos para todos.

Jeunes Volontaires Pour L´Environnement/ Ivory Coast

JEUNES VOLONTAIRES POUR L'ENVIRONNEMENT
CÔTE D'IVOIRE
01 BP: 1660 Abidjan 01 / Tel: (+225) 20 01 20 92 / 20 01 17 57
Siege Social: 1er étage Immeuble Béthel Porte B1, Riviera –Faya,
Boulevard Mitterrand, En face du 1er Bataillon d'Infanterie d'Akouedo
Courriel : jve.ivoire@yahoo.fr
www.jveci.org / www.ong-jve.org

JVE CÔTE D'IVOIRE CONTRIBUTION TO THE PROGRESS OF GAELP BUSINESS PLAN IMPLEMENTATION.

The summary is realized to present the different points of the GAELP Business Plan on which, JVE Côte d'Ivoire worked from 2013 to 2014.

1. **Point of situation of lead in paint issue at national level and Progress realized by our organization regarding to the national context**

- At legislative level:

There is no legal text addressing the issue on lead in paint.

- **At industrial level:**

There no official change of the process used by industrial. Also, there no standards on lead content in different paints sold in Côte d'Ivoire. The labelling of paint cans is not still regulated and there is no obligation for paints manufacturers to mention the different components used to make paints and the lead amount in the different paints.

- **At governmental level:**

There is no concrete action presenting the situation of lead in paint poisoning.

- **At our NGO level:**

We are member of the Africa GEF project on lead in paint elimination. Through this project that will start in September 2014, it is question to undertake activities that will lead to lead in paint reduction at national level. This project has the particularity to embrace different components especially technical, communication, regulatory and political ones.

2. **Priority actions achieved**

Dealing with Priority Actions, JVE Côte d'Ivoire, undertook the different initiatives:

- **Sampling decorative paints for test their lead content from December 2012 to January 2013**

JEUNES VOLONTAIRES POUR L'ENVIRONNEMENT
CÔTE D'IVOIRE
01 BP: 1660 Abidjan 01 / Tel: (+225) 20 01 20 92 / 20 01 17 57
Siege Social: 1er étage Immeuble Béthel Porte B1, Riviera –Faya,
Boulevard Mitterrand, En face du 1er Bataillon d'Infanterie d'Akouedo
Courriel : jve.ivoire@yahoo.fr
www.jveci.org / www.ong-jve.org

Through this activity realized under UNEP-IPEN project, we sampled the main brands of enabled decorative paints sold in Côte d'Ivoire. The samples were sent to USA for laboratory analysis. The results of the lead content in these paints were presented during the Global day on lead in paint elimination organized in October 2013.

- **Participating to the international week of action on prevention of lead poisoning in October 2013:**

Under this activity, JVE CI presented the UNEP's report giving the results of lead content in different decorative paint sold in Côte d'Ivoire. This report was released to press during a press conference with journalists, environmental authorities, and civil society organizations, GEF representatives and others officials from different technical ministries.

- **Giving information to governmental authorities on the lead content of different paints brands sold in Côte d'Ivoire.**

Under this activity, we developed with government via the ministry of environment, a series of meetings to discuss on the approach that will be the best to address the issue of lead poisoning, especially lead from decorative paints.

The different outcomes of our activities are joined to the present summary as Annex.

JEUNES VOLONTAIRES POUR L'ENVIRONNEMENT
CÔTE D'IVOIRE
01 BP: 1660 Abidjan 01 / Tel: (+225) 20 01 20 92 / 20 01 17 57
Siege Social: 1er étage Immeuble Béthel Porte B1, Riviera –Faya,
Boulevard Mitterrand, En face du 1er Bataillon d'Infanterie d'Akouedo
Courriel : jve.ivoire@yahoo.fr
www.jveci.org / www.ong-jve.org

ANNEX

	
Director of JVE and Assistant	Family Picture at the end of the Press Conference of UNEP's report on lead Content in paints sold in Côte d'Ivoire.
	
Journalist asking question during the press conference	Ministry of Environment representative during her intervention

JEUNES VOLONTAIRES POUR L'ENVIRONNEMENT
CÔTE D'IVOIRE
01 BP: 1660 Abidjan 01 / Tel: (+225) 20 01 20 92 / 20 01 17 57
Siege Social: 1er étage Immeuble Béthel Porte B1, Riviera –Faya,
Boulevard Mitterrand, En face du 1er Bataillon d'Infanterie d'Akouedo
Courriel : jve.ivoire@yahoo.fr
www.jveci.org / www.ong-jve.org

MÉDIASCOPE

Grand-Bassam / Séminaire des Médias et de la Communication

Les acteurs comptent créer une intersyndicale

PETIT ÉCRAN

Cinéma / Projection de films

JVE sensibilise la population sur les méfaits des métaux lourds

Press article picture on the activity of people awareness

United States Environmental Protection Agency

U.S. EPA Contributions to the Global Alliance to Eliminate Lead Paint (Fall 2012-Fall 2014)

GENERAL SUPPORT FOR GLOBAL ALLIANCE

The U.S. Environmental Protection Agency has been very supportive and actively engaged with the Global Alliance since its inception in 2009. In 2012, the Agency began to significantly increase its contributions to the Alliance. In November 2012, EPA submitted its request to become an official contributor. In July 2013, EPA volunteered to again serve as Chair of the interim Advisory Group, a position that had been vacant for two years. The Advisory Group assists with overall coordination and direction for the activities of the Global Alliance.

INTERNATIONAL LEAD POISONING PREVENTION WEEK OF ACTION

In April 2013, EPA proposed an International Lead Poisoning Prevention Week of Action as a coordinated opportunity to raise awareness worldwide about lead poisoning, and to encourage actions to eliminate the use of lead in paint. Planning for this international event was based on a similar annual week of action that EPA co-sponsors in the United States. EPA adapted U.S. domestic outreach materials for use in the international week of action, and worked closely with WHO to plan and launch the new outreach activity in October 2013. The event was very successful, with awareness activities occurring in 44 countries and 100 cities. This international event will now occur annually during the third week of October. The primary focus of the event in October 2014, will again be on the elimination of lead paint. EPA is working closely with WHO to coordinate the 2014 week of action and is again providing outreach materials for international use.

WORKSHOP ON ESTABLISHING LEGAL LIMITS ON LEAD IN PAINT, SEPT. 2014

In November 2013, EPA proposed a workshop for governments interested in, or already working on, establishing legal limits on lead in paint. The purpose would be to support these countries by providing information on the health impacts of lead paint, and on ways to establish legal limits on lead in new residential and decorative paint, based on best practices in different countries around the world. EPA has worked in collaboration with the interim Advisory Group members and the Secretariat to develop the workshop, which will take place in September 2014, in conjunction with the third forum meeting of the Global Alliance.

OUTREACH TO OTHER GOVERNMENTS

EPA has been reaching out to other countries to raise awareness on the health implications of continuing to allow the use of lead paint, particularly in homes and schools where children can be exposed. EPA, U.S. Department of State, UNEP and WHO co-hosted two briefings on the Global Alliance for embassies located in the U.S. The discussions covered the dangers posed by lead paint, the work of the Alliance, and opportunities for governments to get more involved. The first briefing was held for embassy representatives in Washington, DC in December, 2013, and the second one occurred in May 2014, in New York for representatives of the Permanent Missions to the UN.

Armenian Women for Health and Healthy Environment (AWHHE)

Կապարի ազդեցությունը մարդու առողջության և շրջակա միջավայրի վրա

Կապարի կիրառումը

Կապարը թունավոր մետաղ է և մի շարք միջազգային կազմակերպությունների, այդ թվում՝ Առողջապահության համաշխարհային կազմակերպության, ՄԱԿ-ի Շրջակա միջավայրի ծրագրի, Թունավոր նյութերի և հիվանդությունների վերահսկման ամերիկյան գործակալության և տարբեր երկրներում համապատիպ այլ պետական կազմակերպությունների կողմից դասվում է առաջնային աղտոտող նյութերի շարքին:

Կապարի լայն կիրառումն աշխարհի շատ մասերում հանգեցրել է բնապահպանական և առողջապահական լուրջ խնդիրների: Շրջակա միջավայրի աղտոտման կարևոր աղբյուրներից են, մասնավորապես, կապարի երկրորդային հումքի արդյունահանումը, հալումը, արդյունաբերական արտադրությունը և վերամշակումը:

Որոշ երկրներում դեռևս շարունակվում է կապար պարունակող ներկերի և էթիլացված բենզինի կիրառումը: Բենզինը մշակման ընթացքում հարստացնում են կապարով, քանի որ այն նպաստում է մարտկոցի լավ աշխատանքին: 70-80-ական թվականներին այդ խնդիրը սկսվեց շոշափվել ամբողջ աշխարհում: Նկատի ունենալով այն, որ կապարը լուրջ հետևանքներ է ունենում մարդու առողջության, բնական միջավայրի և կենդանական աշխարհի վրա, որոշվեց դադարեցնել բենզինը կապարով հարստացնելու գործընթացը: Հայաստանի կառավարությունը 2000թ.-ին որոշում կայացրեց հանրապետություն ներմուծել միայն կապար չպարունակող բենզին:

Կապարն ամենից շատ օգտագործվում է շարժիչային փոխադրամիջոցների համար կապարաթթվային մարտկոցների արտադրությունում: Այն կիրառվում է նաև այնպիսի ապրանքների արտադրությունում, ինչպիսիք են գունանյութերը, ներկանյութերը, գունավոր ապակին, բյուրեղապակյա սպասքը, ռազմական տեխնիկան, կերամիկական ջնարակը, զոդանյութերը, ոսկերչական իրերը, խաղալիքները, որոշ կոսմետիկական միջոցներ և այլն: Խմելու ջուրը,

որը հոսում է կապարե խողովակների կամ կապար պարունակող զոդանյութով եռակցված խողովակների միջով, նույնպես կարող է պարունակել կապար:

Կապար պարունակող գունանյութերը, թեև ավելի փոքր քանակությամբ, շարունակվում են օգտագործվել ներկերի արտադրությունում: Դրանք մտնում են հակակոռոզիական (հակաքայքայիչ) ծածկույթների բաղադրությունում և ունեն հիմնականում ոչ թե դեկորատիվ, այլ պաշտպանական նշանակություն:

Կապարը լայնորեն օգտագործվում է էլեկտրական մալուխների, թթուների մղման խողովակների, քիմիական լաբորատորիաների կոյուղատարների արտադրության, քիմիական սարքավորումների ներքին մակերեսների կապարապատման համար: Կապարը, գամմա ճառագայթները հեշտությամբ կլանելու հատկության շնորհիվ, օգտագործվում է որպես պաշտպանիչ միջոց՝ ռադիոակտիվ նյութերի և ռենտգենյան ճառագայթների հետ աշխատանքների ժամանակ:

Հայաստանում <<Հայ կանայք հանուն առողջության և առողջ շրջակա միջավայրի>> ՀԿ-ի կողմից ուսումնասիրված 68 խաղալիքի մոտ 20 % -ը պարունակում է առնվազն 1 ծանր մետաղ, որի խտությունը գերազանցում է սահմանային թույլատրելի խտությունը: Ամենից հաճախ հանդիպող խնդիրներից է խաղալիքներում կապարի բարձր պարունակությունը: Հողում, որի վրա քայլում են երեխաները, կապարի թույլատրելի խտությունը 32 մգ/կգ է, իսկ ստուգված մանկական խաղալիքներում, որոնք երեխաները հաճախ կարող են տանել բերանը, այն տատանվել է 32 - 12140 մգ/կգ սահմաններում, այսինքն՝ մոտ 350 անգամ գերազանցել է թույլատրելի խտությունը: Թունավոր մետաղներ պարունակող խաղալիքների մեծ մասն արտադրված է եղել Չինաստանում:

Կապարի ազդեցությունը շրջակա միջավայրի վրա

Կապարով շրջակա միջավայրի աղտոտման հսկայական աղբյուր են համարվում կենցաղային կոշտ թափոնների աղբավայրերը: Այդտեղ

կարելի է հանդիպել մաշված կապարաթթվային մարտկոցների, մալուխների, ծածկույթների (որոնք արտադրվել են հատկապես վերջին տասնամյակների ընթացքում), բյուրեղապակյա, կապարային ապակուց պատրաստված իրերի, ջնարակված կերամիկայի, կապարի խառնուրդով գոդմված արտադրանքների, այդ թվում՝ թիթեղյա տարաների, որոշ ռետինե արտադրանքների: Աղբի վերամշակված արտադրանքներում կապարի պարունակությունը հարյուրից մինչև հազար անգամ գերազանցում է հողում կապարի պարունակությունը:

Հողում կապարի բարձր խտություններ հայտնաբերվում են այն քաղաքներում, որտեղ գործում են կապարի ձուլման, կապար պարունակող մարտկոցների կամ ապակու արտադրություններ:

Կապարի բարձր պարունակություն նկատվում է արմատավոր բույսերում և այլ բուսական ծագման մթերքներում, որոնք աճում են արտադրական տարածքների հարևանությամբ տեղակայված հողատարածքներում և ճանապարհների եզրերին:

Կապարի ազդեցությունը մարդու առողջության վրա

Կապարն, ըստ կենդանի օրգանիզմների վրա ունեցած ազդեցության, պատկանում է խիստ վտանգավոր նյութերի թվին, այսինքն՝ կապարի անվտանգ չափաքանակ գոյություն չունի: Այն մարդու օրգանիզմ թափանցում է կերակրափողի, շնչուղիների, մաշկի միջոցով և աստիճանաբար կուտակվում օրգանիզմում:

Մարդու առողջության համար կապարի վտանգավորությունը որոշվում է վերջինիս թունայնությամբ և օրգանիզմում կուտակվելու հատկությամբ: Կապարի տարբեր միացությունների թունայնությունը տարբեր է:

Մթնոլորտային օդի միջոցով մարդու օրգանիզմ թափանցում է կապարի փոքր քանակություն, ընդամենը 1-2%, որի մեծ մասը ներծծվում է մարդու օրգանիզմում:

Կապարով աղտոտված հողը համարվում է պարենային հումքի և մարդու, հատկապես՝ երեխաների օրգանիզմ կապարի ուղղակիորեն ներթափանցման աղբյուր:

Պարենային հումքի և սննդամթերքի մեջ կապարը կարող է մուտք գործել հողի, ջրի, օդի, գյուղատնտեսական կենդանիների կերի միջոցով: Կապարի առավել բարձր խտություններ հայտնաբերվում են թիթեղյա տարայով պահածոներում, թարմ և սառեցված ձկնեղենի, ցորենի թեփի, ժելատինի, խեցեմորթների մեջ և այլն:

Կապարը թունավոր է և վտանգավոր նրանով, որ, անցնելով օրգանիզմ, ոչ թե քայքայվում է, այլ՝ կուտակվում: Այն կարող է ժամանակ առ ժամանակ թափանցել արյան մեջ ու առաջ բերել կապարային հիվանդություններ: Կապարի ազդեցության նկատմամբ առավել զգայուն է նախադպրոցական տարիքի երեխաների օրգանիզմը, քանի որ նրանց նյարդային համակարգը գտնվում է ձևավորման փուլում: Երեխաների առողջության վրա կապարի ազդեցության հիմնական ցուցանիշն արյան մեջ դրա քանակն է, ընդ որում, միշտապես վերանայվում է արյան մեջ կապարի առավարտիվային պարունակությունը: Մի շարք խոշոր ազգային և միջազգային ծրագրերի արդյունքներով հաստատվել է, որ, երեխայի արյան մեջ կապարի խտությունն ավելացնելով 10 - ից մինչև 20 մկգ/դլ, նվազում է մտավոր զարգացման գործակիցը (IQ):

Կապարային թունավորումն առաջացնում է ագրեսիվություն, թերզարգացվածություն, ցրվածություն, գերակտիվություն, վարքագծի փոփոխություններ, լսողության նվազեցում: Բարձր չափաքանակներով թունավորումն առաջացնում է մտավոր հետամնացություն, թմբիր (կոմա), ցնցումներ և նույնիսկ՝ մահ: Մեծահասակների առողջության վրա կապարի վնասակար հետևանքներից են արյան ճնշման բարձրացումը, նյարդային և վերարտադրողական համակարգերի, լյարդի և երիկամների գործառույթների խանգարումը:

Արյան մեջ կապարի բարձր պարունակությունը հատկապես վտանգավոր է հղի կանանց համար, քանի որ կապարն ազատ անցնում է ընկերքի մեջ՝ թունավոր ազդեցություն ունենալով պտղի վրա: Կապարի բարձր քանակները հղի կանանց մոտ կարող են վիժումների, պտղի մահվան, վաղաժամ ծննդաբերության և ծնվելու պահին ցածր քաշի և այլ թերությունների պատճառ դառնալ:

Առաջարկություններ՝ կապարի արտանետումները կրճատելու համար

Մթնոլորտային օդ և ջրային մարմիններ կապարի արտանետումները կրճատելու համար անհրաժեշտ է՝

- վերազինել մարտկոցների արտադրությունը՝ փոփոխություններ մտցնելով տեխնոլոգիական գործընթացներում և ներդնելով նոր սարքավորումներ, որոնք ունեն մթնոլորտային օդ արտանետումների մաքրման ներկառուցված համակարգ և բացառում են կերտաջրերի առաջացումը (շրջանառու ջրամատակարարում),
- ղեկորատիվ ներկերի արտադրությունում հրաժարվել կապար պարունակող գունանյութերի օգտագործումից՝ դրանք փոխարինելով ֆերիտներով, տիտանատներով, ալյումինատներով,
- մշակել չափորոշիչներ, հաշվառման և հաշվետվողականության մեխանիզմ՝ կապարի երկրորդային հումքի, գործածությունից դուրս եկած կապար պարունակող սարքավորումների ու մարտկոցների հանձնման համար,
- ստեղծել կապարի երկրորդային հումքի վերամշակման հզորություններ,
- ներդնել բնակչության բժշկա-կենսաբանական մոնիթորինգի երկաստիճան համակարգ, որը ներառում է զանգվածային հետազոտության ժամանակ կապարի պարունակության որոշումը մազի և արյան մեջ (բարձր ռիսկի խմբերի համար),
- ավտոմոխսարարամիջոցները համալրել լրացուցիչ սարքավորումներով՝ էթիլացված բենզինին այլընտրանքային վառելիքի տեսակներով (բնական և հեղուկացված նավթային գազ, սպիրտային վառելիքներ, կենսագազ, ջրածին և այլն) և էլեկտրաէներգիայով փոխարինելու համար:

Հետադարձ կապ

ԱՇՀՀԸ

<<Հայ կանայք հանուն առողջության և առողջ շրջակա միջավայրի>> ՀԿ

22, ք. Երևան 0019,
Բաղրամյան պող. 24դ, սենյակ 609
Հեռ.՝ (+374 10) 523604
Էլ. փոստ՝ office@awhhe.am
Վեբ կայք՝ www.awhhe.am

UNEP´s Submission

1. Since the beginning of the work of GAELP, UNEP has been hosting the official website of GAELP. This includes all relevant documents, announcements, meetings, information on how to become a contributor, publications, etc. An updated version of the official website of the Global Alliance was launched prior its 3rd meeting. It can be accessed through: http://www.unep.org/noleadinpaint/
2. UNEP in coordination with WHO promoted "the first international lead poisoning prevention week", held from 20 – 26 October 2013, in collaboration with a number of other GAELP contributors.
3. UNEP also hosted the web page of the first international lead poisoning awareness week and it can be accessed through: http://www.unep.org/chemicalsandwaste/LeadCadmium/PrioritiesforAction/LeadPaints/FocalAreasofWork/Leadweek/tabid/106381/Default.aspx
4. UNEP coordinated with the government of Kenya and global paint producers in Kenya to achieve the goals of the first international week of action. The efforts in Kenya are presented in a video called working through lead free Kenya, can be accessed: https://www.youtube.com/watch?v=NwjeIlKJ81w
5. UNEP, in cooperation with IPEN, produced a report entitle " *Lead In Enamel Decorative Paints National Paint Testing Results: A Nine Country Study"*. This study includes the sampling and testing efforts and results in Argentina, Azerbaijan, Chile, Ivory Coast, Ethiopia, Ghana, Kyrgyzstan, Tunisia and Uruguay. The report can be accessed through: http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/publications/Lead_in_Enamel_decorative_paints.pdf
6. This report was launched during the first international lead poisoning prevention week", held from 20 – 26 October 2013, in Nairobi, Kenya.
7. In relation to UNEP Governing Council Decision 27/12 and UNEA Resolution 1/5 VI. Lead and Cadmium, UNEP has been compiling the submissions of different stakeholders on Lead & Cadmium "information on techniques for emission abatement and on the possibility of replacing lead and cadmium with less hazardous substances or techniques. Submissions, which can be accessed at http://www.unep.org/chemicalsandwaste/LeadCadmium/Mandates/Mandates-UNEPGC27-Followup/tabid/838787/Default.aspx , includes the techniques to substitute lead for different uses of lead including paint and also includes substitutes and cost effective reformulation of lead which maybe a guidance for many stakeholders.
8. UNEP's invitation to Governments and other stakeholders to submit further available information could be done until 30th September 2014.
9. Relevant details of submissions in relation to lead paint and its substitutes and cost-effective reformulation will be presented in the Industry Case Studies Session of the workshop on establishing legal limits on lead in paint (22-23 September 2014).
10. UNEP published a publicly available brochure "Elements of a national legal and regulatory framework", October 2013. The brochure explains the needs for legislation and the steps that should be taken into account for legislation to guide governments. The brochure can be accessed through:http://www.unep.org/chemicalsandwaste/Portals/9/Lead_Cadmium/docs/GAELP/GAELP%20Documents/NRFflyer-.pdf
11. Throughout different meetings with various stakeholders, including governments, UNEP has been promoting the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints. This

has been done in line with the brochure “Elements of a national legal and regulatory framework”, October 2013.

global alliance to eliminate lead paint

Why is lead paint still an issue?

Since the first part of the 20th century, restrictions on the use of lead in paints have been enacted in a number of countries. Despite these efforts, it has become clear in recent years that paints containing high levels of lead are still widely available and used in many countries for decorating the interiors and exteriors of homes. It can also be found in paint in public buildings such as schools and hospitals, as well as on toys, toy jewellery, glazes, furniture, and playground equipment.

Lead is a chemical of major public health concern. It can have profound and permanent adverse health effects on children, including through exposures to pregnant women. While the greatest impacts are on children, Lead also causes harm in adults, particularly workers.

The cost of lead exposure to society can be significant. Lead exposure is estimated to account for 0.6% of the global burden of disease, with the highest burden in developing countries. Childhood lead exposure is estimated to contribute to about 600,000 new cases of children with intellectual disabilities every year. Public health interventions which focus on elimination of exposure are the most effective measures against childhood lead poisoning.

Reducing childhood lead exposure is a key public health goal and will make an important contribution to achieving sustainable development objectives including the United Nations' Millennium Development Goals and implementation of the Strategic Approach to International Chemicals Management.

Exposure to lead from paint can occur during manufacture and application. One of the most common and most concentrated sources of lead exposure for children is lead paint and paint dust. Exposures can continue for many years as the paint deteriorates or is removed during painting and demolition.

Good substitutes for lead in paint have been known for many years. Paints without lead are available which are similar in cost and performance to lead paints.

We can prevent the adverse effects of lead.

Health effects of lead

Typically, lead is a chronic or cumulative toxin that affects multiple body systems including the neurological, haematological, gastrointestinal, cardiovascular and renal systems. Chronic lead exposure commonly causes haematological effects, such as anaemia, or neurological disturbances including headache, irritability, lethargy, convulsions, muscle weakness, ataxia, tremors and paralysis. There is evidence that chronic occupational exposure to lead may also contribute to the development of cancer.

Acute adverse effects are commonly seen only after exposures to lead at high concentrations. Acute exposures to lead may cause gastrointestinal disturbances (anorexia, nausea, vomiting, abdominal pain), hepatic and renal damage, hypertension and neurological effects (malaise, drowsiness, encephalopathy) that may lead to convulsions and death.

Infants, young children and pregnant women are most susceptible to the adverse effects of lead. Young children are particularly vulnerable to the neurotoxic effects of lead with the developing nervous system the critical target. Subtle effects on intelligence quotient (IQ) are expected from blood lead levels as low as 5ug/dl and lead exposure has also been linked epidemiologically to attention deficit disorder and aggression. Exposure of pregnant women to high levels of lead can cause miscarriage, stillbirth, premature birth and low birth weight as well as minor malformations.

Many children who ingest smaller amounts of lead may not have immediate acute symptoms but may be still at risk of behavioural problems, poor school performance and lower IQ later in life. No "safe" blood lead level has been identified.

There are many ways young children can be exposed to lead. Children can be severely affected by eating lead-based paint chips, chewing on objects, including toys painted with lead-based paint, or from exposure to dust or soil that contains lead from paint.

Pregnant and breast feeding mothers with high lead burden due to environmental or occupational exposures can pass lead to unborn or nursing babies, placing them at risk of developmental delay, reduced IQ and behavioural problems even if the mother displays no symptoms herself.

High level exposure to lead in men can damage the reproductive organs responsible for sperm production, with decreased sperm count and increased number of abnormal sperm.

What is lead paint?

'Lead paint' refers to a product which is produced using specific lead compounds to give paint its colour, to allow the paint to reduce corrosion on metal surfaces, or to help the paint dry more quickly. Lead compounds may also be present in a range of coatings such as varnishes, lacquers, stains, enamels, glazes or primers.

Lead can also be found as a contaminant in other raw materials that are used to make paint and other products, and as a result manufacturers must closely monitor overall lead content. Efforts should be made to keep the total lead content in paints as low as possible.

Simple analytical tests are used to determine the amount of lead (by weight) and a number of approaches exist depending on the painted surface or the sample.

Recent multi-country surveys have found many new enamel paints with average lead concentrations ranging from 163 to 7341 ppm and with some paints having very high concentrations of lead, such as 200,000 ppm dry weight or 20%

Good substitutes for lead in paint have been known for many years. Paints without lead are available so that reducing the lead content of decorative paints is something that is practically achievable. Levels of lead less than 90 ppm and often below 45 ppm can be found in a number of countries.

It is a priority to make paint manufacturers aware of the public and occupational health risks arising from continued use of lead paint and the consequent need to reformulate products to eliminate the practice of adding lead or lead compounds to paint.

Few people realise that common playground equipment may be colored with lead paint.

global alliance to eliminate lead paint

Use of lead paint in countries

Despite what is known about the health risks arising from lead paint and the restrictions on lead in paints that were enacted in a number of countries in the first part of the 20th century, paints containing high levels of lead are widely available in many countries

The impression that the use of lead in paints in both developing and developed countries is limited to paints intended for industrial uses is incorrect.

Once applied, it is often very expensive to remove lead paint or otherwise reduce the risks of exposure to lead. Dust from lead paint can be created as painted surfaces deteriorate through use and weathering and when they are prepared for repainting. Lead-contaminated dust is a major exposure pathway for children. Women may also be at increased risk because of their greater role in daily household cleaning and maintenance. Significant occupational hazards are observed when workers, often without knowing, damage painted surfaces containing lead.

Unless we prevent the use of lead paint, we can assume that there will be a large increase in the number of houses and other buildings that are contaminated by lead.

Primary prevention, including through controls on the manufacture, sale, import and export of lead paints, is far more cost-effective and viable than remediation programmes.

Regulatory issues for controlling lead paint

Effective legislation and regulatory mechanisms are needed to stop current practices and protect public health and the environment. The key objectives of any legislative and regulatory approach are to:

- Define lead paint and establish analytical methods for determining the lead content of paints.
- Assign regulatory authorities and responsibilities.
- Eliminate the manufacture and use of lead paint.
- Require paint container labelling on lead content and lead dust hazards.

The legislation/regulations should also seek to:

- Establish means to prevent paints, toys and other consumer products that do not comply with lead restrictions from entering the country.
- Specify the role of third party organizations in certifying lead content in paint.

Global Alliance to Eliminate Lead Paint

The Global Alliance to Eliminate Lead Paint is a new initiative to focus and catalyse the efforts of diverse stakeholders to achieve international goals to eliminate lead paint.

The overall goal of the Global Alliance is to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint. The broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks that such paints pose.

The Global Alliance to Eliminate Lead Paint is an important means of contributing to the Plan of Implementation of the World Summit on Sustainable Development and to the resolutions of the International Conference on Chemicals Management (ICCM).

The participation of representatives and interested experts from Governments, intergovernmental organizations, non-governmental organizations, including civil societies, regional bodies, philanthropic organizations, academia, the media and the private sector, is encouraged.

The work of the Global Alliance is organized in five focal areas:

- Environmental aspects
- Health aspects
- Worker's health
- Legislation and regulation
- Outreach to industry

If you would like to receive more information on the work of the Global Alliance to Eliminate Lead Paint, please visit the Global Alliance to Eliminate Lead Paint website, www.unep.org/hazardoussubstances/

Alternatively, you may contact:

Chemicals Branch
Division of Technology, Industry and Economics
United Nations Environment Programme
Email: lead.cadmium.chemicals@unep.org

and

Public Health and Environment
World Health Organization
Email: noleadinpaint@who.int

Global Alliance to Eliminate Lead Paint

UNEP

World Health Organization

Global Alliance to Eliminate Lead Paint

The Global Alliance to Eliminate Lead Paint is a new initiative to focus and catalyse the efforts of diverse stakeholders to achieve international goals to eliminate lead paint.

The overall goal of the Global Alliance is to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint. The broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks that such paints pose.

The Global Alliance to Eliminate Lead Paint is an important means of contributing to the Plan of Implementation of the World Summit on Sustainable Development and to the resolutions of the International Conference on Chemicals Management (ICCM).

The participation of representatives and interested experts from Governments, intergovernmental organizations, non-governmental organizations, including civil societies, regional bodies, philanthropic organizations, academia, the media and the private sector, is encouraged.

The work of the Global Alliance is organized in five focal areas:

- Environmental aspects
- Health aspects
- Worker's health
- Legislation and regulation
- Outreach to industry

If you would like to receive more information on the work of the Global Alliance to Eliminate Lead Paint, please visit the Global Alliance to Eliminate Lead Paint website. www.unep.org/hazardoussubstances/

Alternatively, you may contact:

1972-2012: Serving People and the Planet

Chemicals Branch
Division of Technology, Industry and Economics
United Nations Environment Programme
Email: lead-cadmium.chemicals@unep.org

global alliance to eliminate lead paint

Introduction

This brochure is provided by the Global Alliance to Eliminate Lead Paint. It provides a brief guidance to governments wishing to consider establishing a national framework for implementing and enforcing legal requirements for the control of lead in new decorative paint used in homes, schools and other areas that pose high exposure risks for children.

The Global Alliance to Eliminate Lead Paint

The Global Alliance is a new initiative to focus and catalyze the efforts of diverse stakeholders to achieve an international goal to eliminate lead in paint. The overall goal of the Alliance is to prevent children's exposure to lead paints and minimize occupational exposures to lead paint. Its broad objective is to phase out the manufacture and sale of paints containing lead. The Global Alliance encourages all countries to enact effective national legislation and/or regulations to stop the manufacture, import, export, sale and use of lead-containing paints, and also of products coated with lead paints.

Why Does Paint Contain Lead?

Lead or lead compounds may have been added by the manufacturer to give paint its color, to allow the paint to reduce corrosion on metal surfaces, or to help the paint dry more quickly. Lead compounds may also be present in other coatings such as varnishes, lacquers, stains, enamels, glazes or primers. However there are alternatives to lead that are currently available to paint manufacturers.

Health Effects of Lead

Lead is a toxic metal that can cause serious impacts on human health, including permanent brain and nervous system damage, problems with kidney function, and blood and reproductive damage. Children under 6 years of age and pregnant women whose developing fetus can be exposed are especially vulnerable.

The adverse health effects of lead to humans have been known for many years. Recent evidence has documented health effects at very low blood lead levels and no safe blood lead level for children has been identified.

The links between lead in paint and adverse health effects among exposed children and workers are well established[1].

Countries Need to Regulate Lead Paint

Reducing the adverse health effects from lead paints necessitates controlling exposures. National controls on the manufacture, import, sale, use, and export of lead paints are far more cost-effective in reducing exposure risks than any future remediation programmes. Legislation and/or regulation is needed to stop current practices and protect human health and the environment.

[1]For an overview of the health effects of lead and why lead paint is still an issue, see: http://www.unep.org/hazardoussubstances/PortalsWLead_Cadmium/Images/LeadPaint-FlyerJM121016_Web.pdf

Although some restrictions on the use of lead in paints were enacted in many countries in the first third of the 20th century, it has become clear in recent years that paints containing high levels of lead are still widely available for purchase for residential purposes in many countries.

Available data from paint testing studies in thirty-seven (37) countries have revealed that new paints with high lead concentrations are widely available to consumers in many regions of the world. The data from these studies indicate that without appropriate national legislation and regulation, paints with lead will continue to be available in local markets.

The paint testing studies also found that paints containing low lead concentrations were also being sold at a similar price. This provides strong evidence that reasonable substitutes for lead are available, and that the manufacture of paint without the addition of lead compounds is currently feasible.

The use of paint is increasing rapidly in countries with growing personal income, and people are putting more of their income into their property and its maintenance. Unless the lead content of new paint is controlled during manufacturing, the exposure of children to high levels of lead will continue in millions of homes and schools, jeopardizing their present and future health.

The call to eliminate lead paint is similar to an earlier concerted international initiative to encourage national regulatory actions to eliminate lead additives from vehicle fuels. The face-out of lead additives has resulted in measurable reductions in blood-lead levels in children and in wider populations around the world. However, lead paint is still a significant remaining source of lead exposure for children and adults.

Objectives of Legislation and the Regulations Needed to Implement and Enforce Legislation

Prior to developing or modifying legislation and/or regulatory requirements to limit the amount of lead in paint, a government should review its existing requirements and voluntary standards. The development of new legislation and/or regulations would only be needed if the existing laws, regulations and enforcement programs are determined to be inadequate to protect public health.

The objectives of lead paint legislation and/or regulation include the following:

1. Prevention of the manufacture, import, use and export of lead paint;
2. Development of a system with effective means of enforcement and compliance;
3. Establishment of institutional responsibilities and arrangements for the management and enforcement of legislation and/or regulation.

Specific Suggestions for Implementing these Objectives

1. Defining Lead Paint

Government legislation and/or regulations s will need to include definitions and specific quantitative limit values on the lead content of paint, in order for the legal limits to be enforceable. In doing so, they may wish to consider the experiences of other countries and, where appropriate, establish definitions and limit values consistent with countries in the same region, economic community or trading block.

The following definitions developed by the Global Alliance to Eliminate Lead Paint may be helpful:

The term "paint" may include: varnishes, lacquers, stains, enamels, glazes, primers or coatings used for any purpose; and is typically a mixture of resins, pigments, fillers, solvents, and other additives.

"Lead paint" is paint to which one or more lead compounds[2] have been added.

The total lead concentration is usually defined as a weight percentage of the total non-volatile portion of the product or in the weight of the dried paint film. Efforts should be made to keep the total lead content in paints as low as possible, while recognizing that even when lead compounds have not been added to the paint, a small amount of lead may occur as a contaminant of other paint ingredients.

[2]Lead compounds that are typically added to paint include, but are not limited to: Lead carbonate (white lead), Lead chromate, Lead chromate oxide, Lead chromate molybdate sulphate red, Lead sulpho-chromate yellow, Lead 2-ethylhexanoate, Lead molybdate, Lead naphthenate, Lead nitrate, Lead monoxide, Lead oxide, Lead octanoate, Lead peroxide, Lead sulphate, and Tri lead-bis (carbonate)-dihydroxide.

2. Determining the Lead Content of Paint

Countries may wish to establish appropriate analytical methods to determine the lead content of paints and products with painted surfaces. A number of existing methods for the preparation of samples and the analysis of lead in paint are available. These are summarized in the World Health Organization's "Brief Guide to analytical methods for measuring lead in paint." This guide is available in English, Chinese, French, and Spanish at www.who.int/ipcs/assessment/public_health/lead/en/

3. Setting Effective Dates of Legislation and/or Regulations

Countries will need to specify effective dates for particular measures set out in the legislation and/or regulation such as dates on which controls on the manufacture, import, use and export, of lead paint will become effective.

The date by which these products must no longer be sold should also be indicated. In establishing such dates, countries may wish to work with industry and other stakeholders to determine the time needed to source and procure alternative materials, to alter production recipes and processes, and to account for and exhaust existing stocks of lead paint.

global alliance to eliminate lead paint

4. Establishing a Mechanism to Promote Compliance

In establishing effective legislation and/or regulation, it will be important to assign clear responsibilities for the various actions required by its provisions. It will be necessary to build the oversight capacity of those agencies that have responsibilities assigned to them, and to provide sufficient resources for them to carry out their functions.

Governments will need to establish a monitoring program that would include regular inspections to ensure that paints are manufactured and marketed in conformity with the legislation and regulation. Periodic sampling of paints would also be needed to ensure their lead content meets prescribed standards.

Governments may wish to consider certification schemes that demonstrate industry compliance. These may be voluntary or mandatory, and could be country-specific or regionally-based. The institutions charged with assessing and certifying conformity could be existing national standards agencies or appropriate independent third-party institutions. These institutions would need to adhere to established procedures for accreditation and to operate transparently in accordance with the provisions of the legislation and/or regulation. They might also be given responsibility for the oversight of laboratories used for testing lead levels. These laboratories should be independent and have current accreditation and ongoing proficiency monitoring demonstrating their ability to work consistently, performing analyses using agreed-upon procedures and appropriate standards. They would likely be accredited by a national accreditation organization that is signatory to the International Laboratory Accreditation Cooperation—Mutual Recognition Arrangement (ILAC–MRA).

5. Setting out the Consequences of Non-Compliance

ILegislation and/or regulation will need to specify how incidences of non-compliance will be handled, including specific penalties.

In establishing effective incentives for compliance and penalties for non-compliance, governments may wish to consider applying the same standards to both domestic and export markets, thereby preventing the dumping of lead paint in countries less advanced in their controls.

Governments may also want to encourage manufacturers to be proactive in demonstrating their compliance with national limits on lead content. This could reduce the cost to governments of an extensive monitoring program, and give manufacturers an opportunity for positive publicity.

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.

6. Additional Controls on Lead Paint Violating Legislation and Regulation

Governments need to establish procedures to deal with paints or painted products that are found to be in violation of legal limits and are therefore unsuitable for distribution and sale or for donation.

Legislation and/or regulation will need to specify how such materials are to be destroyed or disposed of, referring as appropriate to other existing legislation and/or regulations that govern waste management and the disposal of hazardous waste. Legislation and/or regulation should also establish responsibilities for the costs incurred in any disposal operation.

Products that do not conform to these provisions should not be allowed to be exported for sale or donation.

7. Periodic Review

Governments are encouraged to conduct a baseline assessment of the lead in paints being sold in their countries prior to the effective date of new legislation and/or regulation to limit lead content in paint. This initial assessment would provide a useful basis for future periodic reviews of the effectiveness of new legal limits in meeting the target to eliminate lead paint. The legislation and/or regulation could include a mechanism, schedule and responsibility for periodic reviews. The review should also consider new knowledge that may have been gained since the initial establishment of the legislation and/or regulation.

Elements of A National Legal and Regulatory Framework for the Elimination of the Use of Lead in New Decorative Paint

UNEP

This publication is a contribution to the Global Alliance to Eliminate Lead Paint

LEAD IN ENAMEL DECORATIVE PAINTS

NATIONAL PAINT TESTING RESULTS: A NINE COUNTRY STUDY

UNEP

IPEN
a toxics-free future

IPPIC´s Submission

Contributions to the GAELP

BUSINESS PLAN ELEMENTS	SPECIFIC INDUSTRY ACTIVITY
15. Priority actions for 2012-2013, drawn from the focal area work plans and not listed here in any ranked order, will be:	
(a) Establishing and launching a clearinghouse or data repository for the Global Alliance that contains available advocacy materials, information on lead paint levels, on blood-lead testing and surveillance, and treatment guidelines etc. (Relevant to focal area on health, environment, outreach to industry and legislation and awareness). An initial focus of the clearinghouse will include those materials needed to support the marking of an international day of action;	IPPIC has not undertaken any initiatives in this area, owing to the fact that all its members produce decorative products that do not contain lead.
(b) Developing a proposal and obtaining broad support among Governments, clinical and public health professionals and other stakeholders for the marking of an international day of action on prevention of lead poisoning with an initial focus on eliminating lead paint (relevant to focal areas on health aspects and on environmental aspects);	IPPIC fully supports this effort, having made public communications in 2013 and planning additional supportive efforts in 2014.
(c) Filling information gaps on the presence or absence of lead paint on the consumer market in those countries where little or no data are now available; expanding information on lead exposure pathways for vulnerable populations (e.g. children under six years of age, paint users and workers in paint production facilities) associated with different paint categories (e.g. decorative paints; industrial paints; anti-corrosive metal primers; and others) (relevant to all focal areas);	IPPIC's presentation at the upcoming workshop in New Delhi, India will provide some insight on this matter.
(d) Developing technical guidelines for paint manufacturers on alternatives to lead compounds used in paints (relevant to focal areas on health aspects, environmental aspects and outreach to industry);	IPPIC has not undertaken any initiatives in this area, owing to the fact that all its members produce decorative products that do not contain lead.
(e) Developing a framework for the labelling and certification of paints (relevant to focal areas on legislation and regulation and outreach to industry);	IPPIC does not support this effort.
(f) Disseminating a document that presents and discusses the elements of a national regulatory framework for eliminating lead paint (relevant to focal area on legislation and regulation);	IPPIC fully supports this effort.
(g) Contributing expertise about lead paint to the finalization of WHO evidence-based guidelines on the prevention and management of lead exposure, including recommendations concerning the establishment of blood lead screening and surveillance programmes for lead exposures (relevant to all focal areas);	IPPIC has not engaged in this activity.

(h) Engaging additional stakeholders in the work of the Global Alliance, including through the establishment of national alliances to contribute to implementation activities, and obtaining an increased number of financial contributions and to achieve the goals and objectives of the Global Alliance (relevant to all focal areas).	IPPIC has not engaged in this activity.
16. Additional actions for 2014 - 2020, will need to move beyond the development of awareness and information to promote action and achievement of the goals and objectives of the Global Alliance. The following actions, listed here in no particular order, will be undertaken:	
(a) Promoting the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;	IPPIC fully supports this effort, having made public communications in 2013 and planning additional supportive efforts in 2014.
(b) Promoting third-party certification of no added lead in new paint products, especially in countries which may face challenges with the comprehensive enforcement of national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;	IPPIC does not support this effort.
(c) Identifying the information that small and medium-size paint manufacturers may need to cost-effectively reformulate their paint products to eliminate the use of added lead compounds, and establishing mechanisms to provide them with such information as needed;	IPPIC has not undertaken any initiatives in this area, owing to the fact that all its members produce decorative products that do not contain lead.
(d) Preparing and disseminating guidance materials on how to minimize potential lead exposure in and around housing, childcare facilities, schools and other buildings where lead paint has been used in the past, including information on proper procedures for repainting surfaces, remodelling and demolition;	IPPIC has not engaged in this effort. Many of its member associations have expertise in this area and may choose to contribute separately.
(e) Preparing and disseminating guidance materials on how to avoid or minimize workers' lead exposure in industrial facilities producing or using paint that contains added lead compounds;	IPPIC has not engaged in this effort. Many of its member associations have expertise in this area and may choose to contribute separately.
(f) Increasing capacities to conduct blood-lead testing and surveillance programmes, to assess residential and occupational risks and to implement public and professional education on the mitigation of lead poisoning.	IPPIC has not engaged in this activity.

18. Indicators for evaluating the business plan will include: (a) Number of countries that have adopted legally binding laws, regulations, standards and/or procedures to control the production, import, sale and use of lead paints with special attention to the elimination of lead decorative paints and lead paints for other applications most likely to contribute to childhood lead exposure; (b) Number of paint companies that have committed to the work of the Global Alliance and have eliminated the use of added lead compounds in all of the decorative paints that they manufacture; (c) Number of countries with national awareness activities about the risks of lead paint. (d) Number of contributors participating in the work of the Global Alliance to Eliminate Lead Paint.	IPPIC does not support the targets identified in the Business Plan. IPPIC communications to industry representatives may result in activities that allow for quantification aligned with the targets.