

Summary of
Lead Paint Testing
in **Low and Middle**
Income Countries

**Toolkit for establishing
laws to eliminate
lead paint**

2021 Update

Module C-3



**Global Alliance to
Eliminate Lead Paint**

Outline

- Objectives of This Module
- Overview of IPEN's Global Lead Paint Testing Results as of 2020
- Paint Basics
- Key IPEN Observations About Lead Paint Market Testing Results
- Map of IPEN's Global Lead Paint Testing Results
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Objectives of This Module

- Provide an overview of existing country data from IPEN's lead paint testing (as of 2020) on lead levels in decorative, anticorrosive, and spray paints and the presence of paints without added lead on the market
 - IPEN Lead Levels in Paint Around the World (Reference 1)
 - IPEN 2020 Global Lead Paint Elimination Report (Reference 2)
- Provide an overview of lead levels in paint on playground equipment
 - IPEN 2019 Lead in Playground Equipment in Five Countries (Reference 3)

Overview: IPEN Lead Paint Testing Results as of 2020

(Full details of studies elaborated below)

- Over half of decorative paints tested in 59 countries contained lead levels greater than 90 ppm
- Half of anticorrosive paints tested in 25 countries contained lead levels greater than 90 ppm
- Nearly half of aerosol or spray paints in three countries contained lead levels greater than 90 ppm
 - White paints contained low levels of lead ranging from less than 90 ppm to low thousands, while brightly colored paints, i.e., yellow, green, orange, and red contain extremely high levels of lead ranging from 10,000 ppm to over 400,000 ppm
 - Nearly one-third of paints in 19 countries labeled as “lead-free” were found to contain lead levels greater than 90 ppm
 - Majority of screened playgrounds in five countries had at least one play equipment coated with paint containing lead levels greater than 90 ppm

Paint Basics:

Lead Compounds Used in Paint

See also Module A-3 Paint Basics

- **Lead Pigments**

- Lead chromate and lead molybdate – the most common lead pigments added in paints to provide color, hiding power, and gloss; bright yellow, orange, or red in color; can be mixed with other pigments to produce other bright colors like green and purple
- Lead carbonate and lead sulfate – used as white pigments but are now rarely used since lead-free alternatives like titanium dioxide perform better

- **Lead Driers**

- Lead naphthenate and lead octanoate – the most common lead drying agents added in paints to catalyze the quick binding of pigment to the painted surface
- Strontium-based driers are some of the safer alternatives to lead

- **Lead Corrosion Resistance Agents/Primers**

- Lead tetroxide – also called red lead or minium; added in paints used in metal surfaces to inhibit corrosion
- Iron oxide and zinc-based primers are some safer alternatives to lead

Paint Basics:

Types of Paint that May Contain Lead

See also Module A-3 Paint Basics

- **Decorative Paints**

- Also called architectural paints or household paints
- Used on the exterior of buildings such as houses, schools, and commercial premises, and on interior surfaces such as walls, ceilings, floors, windows, and doors
- Used in the manufacture of toys, school supplies, children's articles, as well as in coating furniture, appliances, gadgets, kitchenware, potteries, and ceramics

- **Anticorrosive Paints**

- Also called primers
- Used on metal structures, i.e., furniture, playground equipment, gates, bridges, etc.

- **Spray Paints**

- Also called aerosol paints
- Used in almost all types of surfaces and painting applications, i.e., as a touch-up paint for automobiles, furniture, and household appliances; as a convenient stuff for sprucing up accessories and decors; and as a material for school projects, artworks, murals, graffiti, etc.

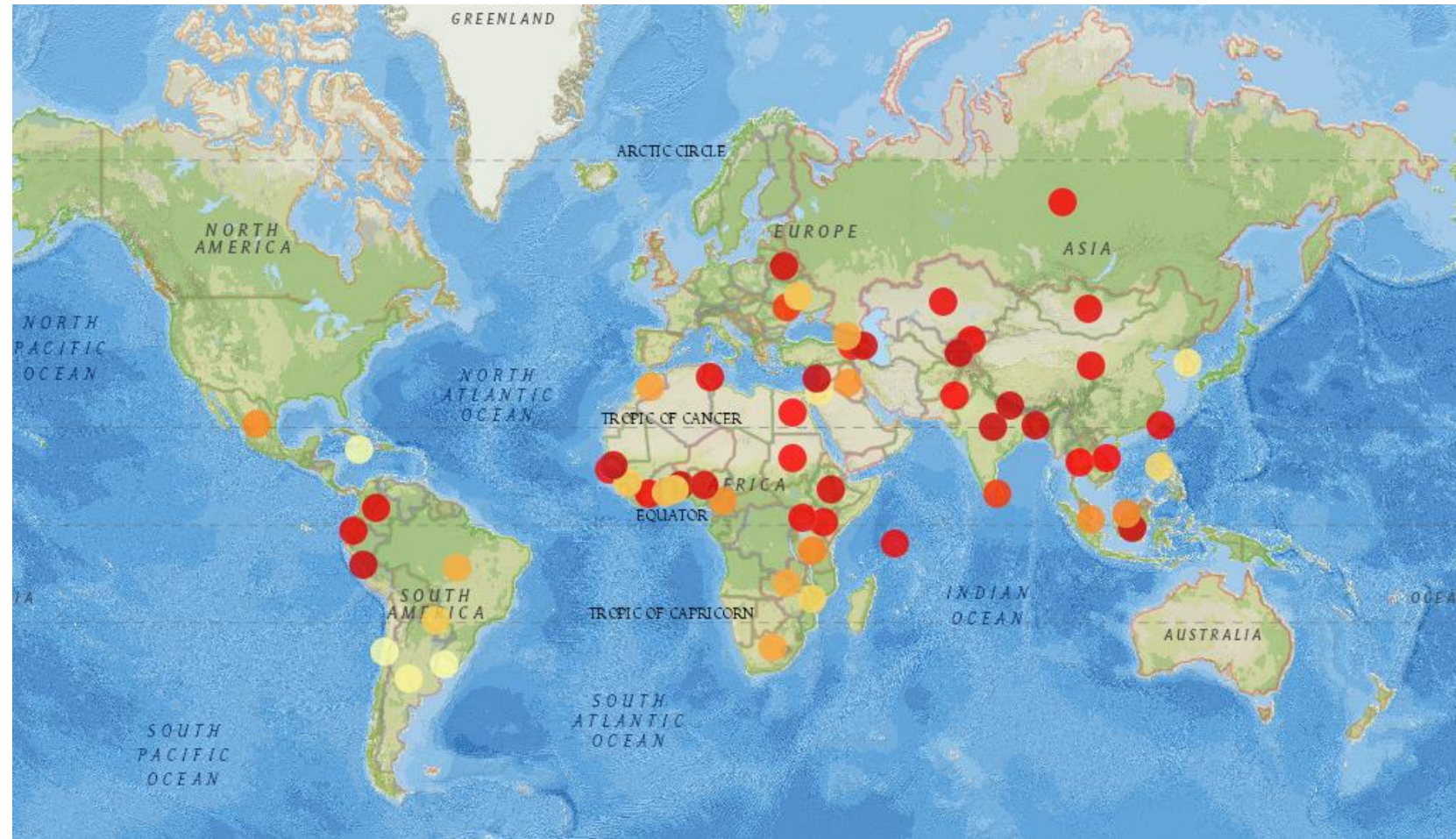
Note: For a more comprehensive list of paints which may contain lead, please see Module A-3 Paint Basics.

Key IPEN Observations

- There is no clear distinction between architectural/decorative paints and industrial paints.
- While decorative paints are used mainly for decorative/aesthetic and architectural purposes, anticorrosive paints and spray paints have wider applications and can be used for both architectural/decorative purposes as well as for other industrial applications.
 - In addition, all decorative, anticorrosive, and spray paints that IPEN purchased were readily available in most retail establishments suggesting that these were intended to be used within home environments.
 - In this Module, we separated out data for decorative, anticorrosive, and spray paints to show that these types of paints contain high levels of lead, and as such, national regulatory frameworks must cover not just architectural/decorative paints but all types of paints, including paints for industrial purposes, since many of these paints find their way in household environments.

IPEN Global Lead Paint Testing Results as of 2020

This interactive map provides country-specific data on lead paint levels around the world. Lead in paint is a major source of lead exposure for children globally. Since 2009, more than 100 studies from 59 countries have shown that lead paints are still widely sold in low- and middle-income countries. IPEN-affiliated NGOs conducted the majority of these studies, comprising more than 3,500 solvent-based paints. Many of these paints contained very high levels of lead above 10,000 parts per million (ppm) of the dry weight of the paint.



Note: The darker the color of dot, the higher percentage of paints found to contain lead levels above either 90 ppm or 600 ppm, depending on the study.
<https://ipen.org/projects/eliminating-lead-paint/lead-levels-paint-around-world>

Lead Paint Testing Methodology

1. An initial survey of paint brands available for sale in the market was conducted by IPEN NGOs.
2. Based on the brand survey, decorative solvent-based paints were purchased. In some studies, a few anticorrosive paints and spray paints were also purchased. In terms of colors, one white paint and one or more bright-colored paints such as yellow, red, orange, and green were selected. **The choice to analyze these types of paints and specific colors were made to find lead paint sold on the market.**
3. Samples of paint were prepared by applying paint onto wooden planks and allowed to dry before sending to the lab.
4. Lab samples were prepared using method EPA 3050B/7000B and were analyzed for total lead content using flame atomic absorption spectrometry (EPA 7420).

Tabulated Data on **Decorative** Paints

- In the next slides, the following data on decorative paints were tabulated.
 - **Total Lead Concentration by Country:** data such as total number of paints analyzed; number of brands analyzed; number/percentage of paints above 90 ppm and 10,000 ppm; maximum and minimum lead levels; as well as the year the study was conducted were tabulated per country.
 - **Total Lead Concentration by Color:** data such as total number of paints analyzed; number of countries the colors were sampled from; number/percentage of paints above 90 ppm and 10,000 ppm; and maximum and minimum lead levels were tabulated per color.

Findings Regarding Decorative Paints

- Over half of the total 2,515 decorative paints tested in 59 countries (57%) contained lead levels greater than 90 ppm
- One in four decorative paints (25%) contained extremely high lead levels greater than 10,000 ppm
- Extremely high lead levels greater than 100,000 ppm were found in 29 countries
- All analyzed decorative paints in Jamaica (31) and Uruguay (30) contained lead levels less than 90 ppm; at the time when studies were conducted, Uruguay had an existing lead paint law, but Jamaica did not have one
- An orange decorative paint from a 2016 study in Colombia contained the highest lead concentration at 250,000 ppm (25% of the total ingredient of the paint is lead); Colombia did not have a lead paint law in 2016
- A grey decorative enamel paint from a 2009 study in Senegal contained the lowest lead concentration at 0.6 ppm; Senegal did not have a lead paint law in 2009

Findings Regarding Decorative Paints

- Results from 52 countries show that white decorative paints have the lowest lead levels among nine different colors (only 39% of 696 analyzed white paints contained lead levels greater than 90 ppm), which suggests that white lead pigments are now rarely used in decorative paints due to superior properties of safer alternatives
- The low lead levels in white paints (only one paint contained lead greater than 10,000 ppm) may suggest that lead-based driers are still used in some decorative paints since commonly used white pigments do not contain lead
- About half of **yellow** (53%), **green** (47%), and **orange** (42%) paints contained extremely high levels of lead greater than 10,000 ppm which can be attributed to the use of lead pigments in brightly colored paints
- The highest lead levels greater than 200,000 ppm were found in a few **orange** and **yellow** paints

Total Lead Concentration by Country (Slide 1 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Argentina	40	14	15% (6)	10% (4)	< 60	100,000	2017
Armenia	47	19	61% (29)	19% (9)	< 60	180,000	2016
Azerbaijan	30	16	77% (23)	7% (2)	< 5	20,000	2013
Bangladesh	56	24	77% (43)	34% (19)	< 5	85,000	2015
Belarus	44	15	75% (33)	20% (9)	< 60	91,000	2016
Benin	28	10	79% (22)	36% (10)	< 60	180,000	2017
Brazil	20	8	35% (7)	10% (2)	< 9	59,000	2014
Cameroon	41	10	46% (19)	20% (8)	< 60	100,000	2017
Chile	23	6	4% (1)	0%	< 5	1,100	2013
China	141	47	70% (99)	34% (48)	< 3	116,000	2016

Total Lead Concentration by Country (Slide 2 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Colombia	38	11	74% (28)	61% (23)	< 60	250,000	2016
Cote d'Ivoire	43	18	63% (27)	30% (13)	< 60	190,000	2017
Ecuador	10	2	70% (7)	N/A	N/A	N/A	2009
Egypt	45	13	58% (26)	0%	< 60	2,100	2017
Ethiopia	36	11	75% (27)	42% (15)	< 60	100,000	2017
The Gambia	39	11	62% (24)	41% (16)	< 60	100,000	2018
Georgia	37	15	38% (14)	11% (4)	< 60	68,000	2016
Ghana	18	8	33% (6)	17% (3)	< 5	42,000	2013
Guinea	14	3	14% (2)	0%	< 60	9,700	2017
India	32	26	91% (29)	59% (19)	10	186,000	2020

Total Lead Concentration by Country (Slide 3 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Indonesia	118	61	83% (98)	42% (50)	< 5	102,000	2015
Iraq	35	12	37% (13)	6% (2)	< 60	110,000	2018
Jamaica	31	11	0%	0%	< 60	< 200	2018
Jordan	17	16	18% (3)	0%	< 1	4,400	2012
Kazakhstan	38	18	76% (29)	11% (4)	< 60	150,000	2016
Kenya	51	21	69% (35)	33% (17)	< 60	160,000	2017
Kyrgyz Republic	50	22	70% (35)	8% (4)	< 60	39,000	2016
Lebanon	15	6	80% (12)	53% (8)	< 9	236,000	2015
Malaysia	37	17	49% (18)	32% (12)	< 60	150,000	2016
Mexico	114	39	44% (50)	28% (32)	< 60	200,000	2018

Total Lead Concentration by Country (Slide 4 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Moldova	27	12	56% (15)	19% (5)	< 60	83,000	2016
Mongolia	53	22	74% (39)	21% (11)	< 60	71,000	2017
Morocco	28	11	46% (13)	21% (6)	< 60	140,000	2017
Mozambique	32	8	25% (8)	12% (4)	< 60	25,000	2017
Nepal	87	35	89% (77)	44% (38)	< 10	124,000	2015
Nigeria	54	18	74% (40)	54% (29)	< 60	160,000	2017
Pakistan	56	19	62% (35)	25% (14)	< 60	110,000	2017
Paraguay	15	5	27% (4)	20% (3)	5	169,000	2015
Peru	10	2	90% (9)	N/A	N/A	N/A	2009
Philippines	103	54	23% (24)	12% (12)	< 60	100,000	2017

Total Lead Concentration by Country (Slide 5 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Russia	72	24	61% (44)	6% (4)	< 60	50,000	2016
Senegal	21	6	86% (18)	19% (4)	0.60	29,700	2009
Seychelles	28	2	68% (19)	43% (12)	N/A	N/A	2009
Singapore	41	7	44% (18)	7% (3)	N/A	75,600	2009
South Africa	29	5	38% (11)	31% (9)	3	195,000	2009
South Korea	20	8	5% (1)	5% (1)	< 60	44,000	2019
Sri Lanka	55	36	58% (32)	22% (12)	3	44,000	2015
Sudan	25	9	64% (16)	28% (7)	< 60	71,000	2017
Taiwan	43	8	67% (29)	44% (19)	< 60	140,000	2016
Tajikistan	50	28	94% (47)	18% (9)	< 60	80,000	2016

Total Lead Concentration by Country (Slide 6 of 6)

Lead Levels in **Decorative Paint** Around the World (References 1 and 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Tanzania	46	12	46% (21)	22% (10)	< 60	84,000	2017
Thailand	97	56	62% (60)	41% (40)	< 5	112,000	2015
Togo	27	9	30% (8)	7% (2)	< 60	42,000	2017
Tunisia	30	16	70% (21)	27% (8)	< 5	170,000	2013
Uganda	30	14	67% (20)	37% (11)	< 60	150,000	2017
Ukraine	53	19	30% (16)	15% (8)	< 60	30,000	2016
Uruguay	30	10	0%	0%	< 5	63	2013
Vietnam	26	11	62% (16)	19% (5)	< 10	21,000	2016
Zambia	39	13	36% (14)	18% (7)	< 60	120,000	2017

Total Lead Concentration by Color

Lead Levels in **Decorative Paint** Around the World

Color	No. of Paints	No. of Countries	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm
Black	18	9	67% (12)	6% (1)	< 9	16,000
Blue	29	8	59% (17)	3% (1)	< 5	16,700
Brown	18	8	78% (14)	17% (3)	< 5	19,300
Green	116	27	78% (90)	47% (55)	< 9	110,000
Grey	13	9	69% (9)	0%	< 9	6,500
Orange	98	37	61% (60)	42% (41)	< 5	250,000
Red	653	52	59% (385)	18% (116)	< 5	131,000
White	696	51	39% (271)	0.14% (1)	< 3	80,000
Yellow	718	52	71% (510)	53% (380)	3	236,000

Tabulated Data on Anticorrosive Paints

- In the next slides, the following data on anticorrosive paints were tabulated.
- **Total Lead Concentration by Country:** data such as total number of paints analyzed; number of brands analyzed; number/percentage of paints above 90 ppm and 10,000 ppm; maximum and minimum lead levels; as well as the year the study was conducted were tabulated per country.
- **Total Lead Concentration by Color:** data such as total number of paints analyzed; number of countries the colors were sampled from; number/percentage of paints above 90 ppm and 10,000 ppm; and maximum and minimum lead levels were tabulated per color.

Findings Regarding Anticorrosive Paints

- Half of the total 92 anticorrosive paints tested in 25 countries (50%) contained lead levels greater than 90 ppm
- Nearly one in ten anticorrosive paints (9%) contained extremely high lead levels greater than 10,000 ppm
- Extremely high lead levels greater than 100,000 ppm were found in four countries
- All analyzed anticorrosive paints in 11 countries contained lead levels less than 90 ppm
- A red anticorrosive paint from a 2017 study in Côte d'Ivoire contained the highest lead concentration at 470,000 ppm (47% of the total ingredient of the paint is lead and the label indicates it “contains lead minium”)
- A red anticorrosive paint from a 2015 study in Sri Lanka contained the lowest lead concentration at 5 ppm

Findings Regarding Anticorrosive Paints

- Results from 25 countries show that orange (75%), grey (67%), and red anticorrosive paints (50%) contained the highest levels of lead greater than 90 ppm
- Extremely high levels of lead among red (470,000 ppm) and orange paints (220,000 ppm) can be attributed to the use of red lead pigments



- Black, brown, white, and yellow anticorrosive paints were found to contain relatively low levels of lead ranging from less than 90 ppm to low thousands (1,600 ppm)

Total Lead Concentration by Country (Slide 1 of 3)

Lead Levels in **Anticorrosive Paint** Around the World (Reference 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Argentina	2	2	0%	0%	< 60	< 70	2017
Armenia	2	2	0%	0%	< 60	70	2016
Belarus	4	4	75% (3)	0%	< 60	1,600	2016
Cameroon	19	13	47% (9)	11% (2)	< 60	220,000	2017
Colombia	1	1	0%	0%	< 60	< 60	2016
Cote d'Ivoire	8	5	63% (5)	12% (1)	68	470,000	2017
Egypt	4	4	100% (4)	0%	430	1,000	2017
Guinea	4	1	75% (3)	0%	90	180	2017
Indonesia	3	3	100% (3)	0%	570	4,365	2015
Iraq	3	3	100% (3)	0%	650	3,900	2018

Total Lead Concentration by Country (Slide 2 of 3)

Lead Levels in **Anticorrosive Paint** Around the World (Reference 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Jamaica	4	3	0%	0%	< 60	< 60	2018
Kazakhstan	7	3	29% (2)	0%	< 60	600	2016
Kyrgyz Republic	1	1	0%	0%	< 60	< 60	2016
Malaysia	2	2	0%	0%	< 200	< 200	2016
Mexico	4	4	75% (3)	0%	< 60	9,800	2018
Moldova	1	1	100% (1)	0%	160	160	2016
Mongolia	3	3	0%	0%	< 60	< 70	2017
Morocco	5	5	0%	0%	< 60	< 60	2017
Pakistan	2	2	0%	0%	< 60	70	2017
Philippines	1	1	0%	0%	< 70	< 70	2017

Total Lead Concentration by Country (Slide 3 of 3)

Lead Levels in **Anticorrosive Paint** Around the World (Reference 2)

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
South Korea	3	3	100% (3)	33% (1)	190	230,000	2019
Sri Lanka	1	1	0%	0%	5	5	2015
Taiwan	4	4	100% (4)	75% (3)	9,700	440,000	2016
Tajikistan	1	1	100% (1)	100% (1)	13,000	13,000	2016
Thailand	3	3	67% (2)	0%	9	189	2015

Total Lead Concentration by Color

Lead Levels in **Anticorrosive Paint** Around the World

Color	No. of Paints	No. of Countries	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm
Black	3	1	0%	0%	< 60	70
Brown	2	2	50% (1)	0%	90	570
Grey	12	6	67% (8)	0%	< 60	9,900
Orange	4	3	75% (3)	25% (1)	< 80	220,000
Red	58	21	50% (29)	12% (7)	5	470,000
White	7	5	29% (2)	0%	< 60	1,600
Yellow	6	4	50% (3)	0%	< 60	610

Tabulated Data on Spray Paints

- In the next slides, the following data on aerosol or spray paints were tabulated.
- **Total Lead Concentration by Country:** data such as total number of paints analyzed; number of brands analyzed; number/percentage of paints above 90 ppm and 10,000 ppm; maximum and minimum lead levels; as well as the year the study was conducted were tabulated per country.
- **Total Lead Concentration by Color:** data such as total number of paints analyzed; number of countries the colors were sampled from; number/percentage of paints above 90 ppm and 10,000 ppm; and maximum and minimum lead levels were tabulated per color.

Findings Regarding Spray Paints

- Nearly half of the total 101 aerosol or spray paints tested in three countries (43%) contained lead levels greater than 90 ppm
- About one-third of spray paints (31%) contained extremely high lead levels greater than 10,000 ppm
- A green spray paint from a 2020 study in the Philippines contained the highest lead concentration at 82,100 ppm
- A white spray paint from a 2017 study in Egypt contained the lowest detectable lead concentration, 70 ppm or less

Findings Regarding Spray Paints

- Results from three countries show that white spray paints contained low levels of lead as none exceeded 1,000 ppm
- Brightly colored spray paints such as green (55%), yellow (67%), orange (22%), and red (15%) contained the highest levels of lead greater than 10,000 ppm



- Results among decorative paints and spray paints are nearly similar as white paints contained low levels of lead while brightly colored paints contained the highest levels of lead exceeding 10,000 ppm

Total Lead Concentration by Country

Lead Levels in **Spray Paint** Around the World

Country	No. of Paints	No. of Brands	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm	Study Year
Cameroon ¹	5	2	0%	0%	< 200	< 300	2017
Egypt ²	9	3	67% (6)	22% (2)	< 70	43,000	2017
Philippines ³	87	37	43% (37)	33% (29)	N/A	82,100	2020

¹Lead in Solvent-Based Paints for Home Use in Cameroon: <https://ipen.org/documents/lead-solvent-based-paints-home-use-cameroon>

²Lead in Solvent-Based Paints for Home Use in Africa: <https://ipen.org/documents/africa-lead-paint>

³Lead in Spray Paints for Consumer Use in the Philippines: <https://ipen.org/documents/lead-spray-paints-consumer-use-philippines>

Total Lead Concentration by Color

Lead Levels in Spray Paint Around the World

Color	No. of Paints	No. of Countries	Percent over 90 ppm (No.)	Percent over 10,000 ppm (No.)	Minimum ppm	Maximum ppm
Black	5	2	0%	0%	< 90	< 300
Blue	3	1	33% (1)	0%	< 90	644
Green	20	1	65% (13)	55% (11)	< 90	82,100
Grey	1	1	0%	0%	< 200	< 200
Orange	9	2	22% (2)	22% (2)	< 90	24,000
Red	26	2	31% (8)	15% (4)	< 90	43,000
White	6	2	33% (2)	0%	< 70	< 1,000
Yellow	31	3	55% (17)	48% (15)	< 90	64,000

False Product Labeling

- In the next slides, information on some paints with false product labeling such as “lead-free” or similar claims were collected. Data were tabulated per country such as:
 - The total number of false labeling;
 - Percentage of false labeling among “lead-free” labeled paints;
 - Examples of “lead-free” or similar claims;
 - Maximum and minimum lead levels;
 - As well as the year the study was conducted.

Findings Regarding False Product Labeling

- Results from paint studies conducted in over 50 countries show that very few of the paints tested indicate the ingredients of the paint on the label
- In 19 countries where labels contained information about the absence of lead, nearly one-third of paints (31%) labeled as “lead-free”, “no added lead”, “less than 90 ppm” or other equivalent claims were found to contain lead levels greater than 90 ppm (48% or nearly half of the falsely labeled paints contained dangerously high lead levels greater than 10,000 ppm)
- None of the falsely labeled “lead-free” paints indicated that the manufacturer participated in an independent, third-party certification scheme to ensure the accuracy of the claims.

Note: Since paint studies were designed to find lead paint on the market, these findings are not indicative of the amount of mislabeled paint in a particular market.

False “Lead-Free” Labels in Some Countries (Slide 1 of 3)

Country	No. of Paints with Lead-free Labels	No. of False Labels	Percent of Falsely Labeled Paints	Labeling Claims	Minimum ppm	Maximum ppm	Study Year
Argentina	6	1	17%	Sin Plomo (lead-free pictogram)	-	9,900	2017
Armenia	2	2	100%	It does not contain lead	-	1,100	2016
Belarus	3	3	100%	Does not contain lead	140	1,500	2016
Cameroon	4	1	25%	Less than 90 ppm lead	-	26,000	2017
Colombia	4	1	25%	Libre de Pb (lead-free)	-	570	2016
The Gambia	8	6	75%	100% lead free; lead free; no added lead	9,400	100,000	2018
India	5	3	60%	Lead content does not exceed 90 ppm	130	270	2020
Iraq	5	1	20%	Unleaded, less than 57 ppm	-	130	2018

False “Lead-Free” Labels in Some Countries (Slide 2 of 3)

Country	No. of Paints with Lead-free Labels	No. of False Labels	Percent of Falsely Labeled Paints	Labeling Claims	Minimum ppm	Maximum ppm	Study Year
Kazakhstan	5	1	20%	Contains no lead salts	-	600	2016
Kenya	3	3	100%	Lead free	110	160,000	2017
Kyrgyz Republic	5	4	80%	Environmental-friendly product; no toxic materials	1,100	11,000	2016
Malaysia	17	3	18%	No added lead; no lead (pictogram)	2,500	58,000	2016
Mexico	51	7	14%	Lead-free; does not contain heavy metals	2,700	130,000	2018
Morocco	2	1	50%	Unleaded paint	-	57,000	2017
Nepal	8	2	25%	No added lead	95	102	2015

False “Lead-Free” Labels in Some Countries (Slide 3 of 3)

Country	No. of Paints with Lead-free Labels	No. of False Labels	Percent of Falsely Labeled Paints	Labeling Claims	Minimum ppm	Maximum ppm	Study Year
Pakistan	23	10	43%	Lead free	1,200	110,000	2017
Philippines	13	4	31%	No Pb (pictogram)	14,600	33,300	2020
Sri Lanka	10	3	30%	Lead safe; free from hazardous metals	969	25,000	2015
Thailand	22	5	23%	No added lead; 100% lead-free	210	59,000	2015

Findings Regarding Lead in Playground Equipment

- 66 children's playgrounds in five countries were visited and 166 pieces of painted play equipment/items (e.g., climbing bars, posts, railings, ramps, rockers, seesaws, slides, swings, etc.) were analyzed for total lead content using a portable x-ray fluorescence (XRF) spectrometers



- 83% of 66 screened playgrounds had at least one play equipment/items coated with paint containing lead levels greater than 90 ppm posing great dangers to children who spend time playing in these environments (85% of 166 analyzed play equipment/items contained lead levels greater than 90 ppm)
- The results highlight the importance of urgent actions to prohibit the manufacture, importation, and sale of lead paint for all purposes

Lead Levels in Paint on Playground Equipment

2019 Five-Country Study (Reference 3)

Country	No. of Playgrounds Screened	No. of Playground Equipment/ Items Analyzed	Percent of Playground Items with Lead Levels over 90 ppm	Percent of Playground Items with Lead Levels over 10,000 ppm	Percent of Playground Items with Lead Levels over 100,000 ppm	Minimum ppm	Maximum ppm
Indonesia	32	74	78%	0%	0%	1	4,170
Malaysia	10	10	80%	70%	10%	ND*	620,000
Mexico	8	16	88%	44%	25%	ND*	395,000
Philippines	14	55	91%	75%	31%	ND*	663,000
Thailand	2	11	100%	82%	0%	ND*	72,300
TOTAL	66	166	85%	39%	13%		

**ND: not detected*

Summary

- IPEN global paint testing data shows that decorative, anticorrosive, and spray paints can contain high levels of lead
- Some paints also contained low levels of lead, indicating the feasibility of producing paint without lead additives
- Some paints with high levels of lead had false product labeling such as “lead-free”
- Paint on playground equipment was measured to have high levels of lead
- The results highlight the importance of urgent actions to prohibit the manufacture, importation, and sale of lead paint for all purposes

References

- F1. IPEN (2020). [Lead Levels in Paint Around the World](#)
- F2. IPEN (2020). [Global Lead Paint Elimination Report](#)
- F3. IPEN (2019). [Lead in Playground Equipment in Five Countries](#)

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