Imported Lead–Containing Spray Paints Sold in the Philippine Market

OCTOBER 2022

EcoWaste Coalition
Swedish Society for Nature Conservation
IPEN
for a toxics-free future

NATIONAL REPORT

Imported Lead–Containing Spray Paints Sold in the Philippine Market

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The EcoWaste Coalition and the International Pollutants Elimination Network (IPEN) thank our partners and colleagues for their encouragement, feedback, and suggestions regarding this report: Patrick Negrete (*Philippine Association of Paint Manufacturers*), Sonia Mendoza (*Mother Earth Foundation*), Rene Pineda (*Consumer Rights for Safe Food*), Atty. Gloria Estenzo Ramos (*Oceana Philippines*), Sara Brosche, Jeiel Guarino, Aileen Lucero, Chinkie Peliño–Golle, and Manny Calonzo. Special thanks to Ryan Yurong for the design and layout, and Albert Asenjo and Arnold Evangelista for the logistical assistance.

While this study was undertaken with funding assistance from the Swedish Society for Nature Conservation (SSNC), responsibility for the content lies entirely with the EcoWaste Coalition and IPEN.

Established in 1998, IPEN is the global environmental network of nearly 600 public interest NGOs in over 125 countries working to eliminate and reduce the most hazardous substances to forge a toxics–free future for all. Additional information materials about IPEN's Global Lead Paint Elimination Campaign can be accessed at: *https://ipen.org/projects/eliminating–lead–paint*

Founded in 2000, the EcoWaste Coalition is a nonprofit network of over 115 public interest groups in the Philippines that have coalesced to advance "*a zero waste and toxics–free society where communities enjoy a safe and healthy environment.*"

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COVER PHOTO: Lea Gicomo, 8, and Jewel Espinosa, 12, of the Philippines make a stand toward a lead–safe future for them and other children.

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HIGHLIGHTS OF THE STUDY

The 85 aerosol paints containing lead content above the legally binding 90 ppm limit which were submitted for confirmatory analysis.
ECOWASTE COALITION

From September 2020 to September 2022, the EcoWaste Coalition collected 100 samples of aerosol paints (also called spray paints) that are marketed for general use in the Philippines, particularly as touch–up paint for bicycles, cars, household appliances, ornaments, and toys, as well as a material for school projects. The imported paint products costing PHP55 to PHP340 per can (or roughly between USD0.90 to USD5.80[1]) were purchased from online vendors and from general merchandise, hardware, home improvement, motorcycle, and school supply stores located in 15 cities, namely Angeles, Antipolo, Baguio, Batangas, Calamba, Dasmariñas, Lucena, Mabalacat, Makati, Malolos, Mandaluyong, Manila, Parañaque, San Fernando, and San Jose del Monte Cities.

Samples were screened for lead content using a handheld X–Ray Fluorescence (XRF) device. The 85 paints that contained a total lead content above the legally binding 90 parts per million (ppm) limit in the Philippines were then submitted to SGS, a global testing company, for confirmatory analysis carried out through inductively coupled plasma–optical emission spectrometry (ICP–OES). None of these paints was produced or distributed by affiliates of the Philippine Association of Paint Manufacturers (PAPM).

The study shows:

[1] PHP to USD exchange rate as of 05 October 2022: https://www.xe.com/currencyconverter/convert/?Amount=340&From=PHP&To=USD

TOTAL LEAD CONTENT ANALYSIS

85 of the 100 spray paints (*85 percent of paints*) representing 25 brands surpassed the 90 ppm total lead limit of which 69 spray paints (*69 percent of paints*) contained extremely high lead concentrations above 10,000 ppm. An orange yellow Automatic Spray Paint manufactured in China contained the highest lead content at 212,000 ppm. The top 12 paints with the highest lead content per brand are listed in Table 1 (*for the full list, please refer to Table 2*).

The orange yellow Automatic Spray Paint which contains the highest lead content in this report.
ECOWASTE COALITION

PAINT BRAND ANALYSIS

Yandy (*with 10 paints*), Sinag (*9*), King Sfon (*7*), Colorz (*6*), Korona (*5*), Tacoma (*5; old variant*), Anton (*4*), Automatic (*4*), Best Drive Extreme One (*4*), and Standard (*4*) had the most number of analyzed lead–containing paints.

PAINT COLOR ANALYSIS

Yellow paints were the most hazardous with 31 of the 35 paints (*89 percent of the yellow–colored paints*) containing lead concentrations above 10,000 ppm, followed by green, red, and orange paints.

PAINT LABELING ANALYSIS

None of the paints indicated the presence of lead on the paint can labels to inform and forewarn consumers. Fourteen of the confirmed Korona and Sinag lead paints were misleadingly marked "*lead free*" or carried the "*No Pb*" pictogram.

COMPARISON WITH RESULTS FROM PREVIOUS STUDY

A study by the EcoWaste Coalition and IPEN published in July 2020, which provided the first publicly available data on the total lead concentrations of paints in aerosol cans sold in the Philippines, found 37 of the 87 analyzed spray paints (*43 percent of the paints*) representing 19 brands contained lead concentrations in excess of the 90 ppm limit. Twenty–nine of these 37 paints (*33 percent of the paints*) contained high lead concentrations above 10,000 ppm. Ten of the 19 lead–containing paint brands in that study are among those included in the current study, still containing lead above 90 ppm: Anton, Colorz, King Sfon, MR. D.I.Y., RStar, Sinag, Standard, Yandy, and Yao Dong Bang.

Like in the present study, none of the analyzed lead–containing spray paints in the 2020 study were manufactured in the Philippines.

THE USE OF LEAD IN PAINTS

Lead can be found at higher levels in solvent–based paints when it is intentionally added to the paint to give it a color, to facilitate the drying process, or used as a pigment to inhibit rust or corrosion. A paint may also contain some amount of lead when raw materials contaminated with lead are used, or when there is cross–contamination from other product lines in the same factory.

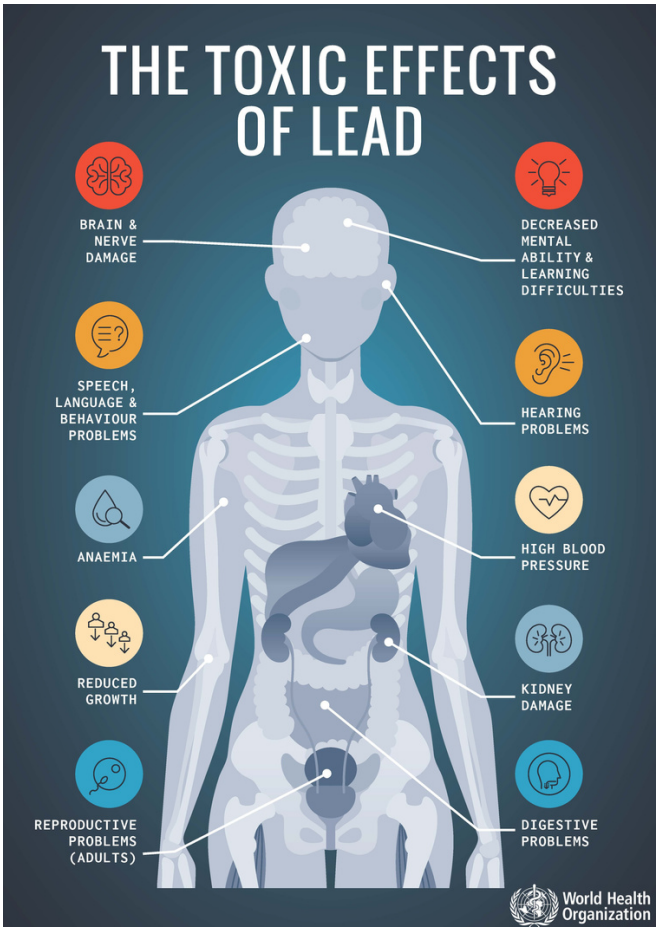
Socially responsible paint manufacturers have shifted to non–lead pigments, driers, and anti–corrosive agents in order to prevent children's exposure to lead from paints, as well as to reduce workers' exposures to lead–based paint hazards.

Some leading paint manufacturers, including Boysen, Davies, and Sycwin from the Philippines, participate in the Lead Safe Paint® third–party certification program, confirming their paints meet the strictest 90 ppm limit for lead content in paints.

HEALTH EFFECTS OF LEAD EXPOSURE

Lead is a toxic metal that causes adverse effects on both human health and the environment. While lead exposure is harmful to adults, lead exposure harms children at much lower levels, and the health effects are generally irreversible and can have a lifelong impact. According to the World Health Organization (WHO), "*there is no known level of lead exposure that is considered safe.*"

When a young child is exposed to even small amounts of lead, the harm to her or his developing nervous system makes it more likely that the child will have difficulties in school and engage in impulsive and violent behavior. Lead exposure in young children has been linked to increased rates of hyperactivity, inattentiveness, failure to graduate from high school, conduct disorder, juvenile delinquency, drug use, and incarceration.



The toxic effects of lead on human health.
WORLD HEALTH ORGANIZATION

Lead exposure impacts on children continue throughout life and have a long–term impact on work performance, and, on average, are related to decreased economic success. In adults, lead exposure can cause hypertension, renal impairment, and damage to the reproductive organs.

LEAD PAINT REGULATION

Because of the scientific and medical findings identifying lead paint as a major source of lead exposure in children, laws and regulations have been enacted in a growing number of countries banning or restricting the lead content in paints.

The Philippines through the Department of Environment and Natural Resources (DENR) Administrative Order 2013–24, also known as the *Chemical Control Order for Lead and Lead Compounds (or the CCO)*, establishes a total lead limit of 90 ppm for lead used as pigment, drying agent or for some other intentional purposes in paint formulations.

The CCO set a phase–out deadline of three years (*2013–2016*) for lead–containing paints used for architectural, decorative, and household applications, and six years (*2013–2019*) for lead–containing paints used for industrial applications. In 2021, the Philippines received the Future Policy Award (*special category for lead in paint*) from the World Future Council for being the first country in Southeast Asia to successfully implement legislation toward the elimination of all lead–containing paints.

CONCLUSIONS AND RECOMMENDATIONS

While analytical studies conducted by the EcoWaste Coalition and IPEN between 2013 to 2017 indicate a significant decline in the number of locally–manufactured leaded decorative paints in the market following the completion of the said phase–out period, the presence of paints containing levels of lead above the legal limit in retail stores and in online shopping platforms persists, posing a threat to public health.

As corroborated by this study, imported spray paints containing high levels of lead are able to enter the country and sold with impunity despite the national policy banning all lead–containing paints.

To uphold and strengthen the national ban on lead paints, which the DENR, PAPM, EcoWaste Coalition, and IPEN collaboratively pursued, the following action points are hereby recommended:

FOR THE GOVERNMENT

- Bureau of Customs:
  - Tighten customs checks for paint imports.
- Department of Environment and Natural Resources:
  - Initiate the nomination of lead chromates, the most common lead–based paint pigments, for listing under the Rotterdam Convention to control the entry of such raw materials and the finished paint products containing them.
- Department of Trade and Industry and/or Department of Health:
  - Order business establishments, including online shopping platforms, to discontinue selling lead–containing paints or face administrative and criminal sanctions.
- Department of Education and the Commission on Higher Education:
  - Integrate awareness of health impacts of leaded paints in the curriculum under Republic Act 9512, or the National Environmental Awareness and Education Act.
- Department of the Interior and Local Government:
  - Enable and engage local government units (LGUs) to promulgate lead–safe paint ordinances in line with DILG Memorandum Circular 2018–26 on "Mandatory Use of Lead–Safe Paints by LGUs"
- Local Government Units:
  - Collaborate with national government agencies and civil society organizations in promoting compliance to the country's lead paint law to protect the right to health of their constituents.

- Impose fines and penalties, as well as file administrative and criminal cases, against manufacturers, importers, distributors and retailers of lead–containing paint products wrongfully labeled as "*lead–free*" in line with Republic Act 7394, or the *Consumer Act of the Philippines*.

FOR PAINT MANUFACTURERS

- Remove non–compliant lead–containing paints from retail outlets for environmentally sound disposal.
- Obtain third–party Lead Safe Paint®[2] Certification to assist consumers in making an informed choice when buying paints.

FOR CONSUMERS

- Stand up for your legally protected rights to truthful product information and to product safety and seek adequately labeled and lead–safe paint products.

Finally, stakeholders from the government, business and industry, health care sector, academia, and the civil society are encouraged to actively support policies and programs that will contribute to reduced children's, women's, and workers' exposure to lead from lead–containing paint, dust, and soil towards a lead–safe future for all.

Lea Gicomo, 8, and Jewel Espinosa, 12, of the Philippines make a stand toward a lead–safe future for them and other children.
ECOWASTE COALITION

[2] https://www.leadsafepaint.org/

APPENDIX

TABLE 1 | TOP 12 SPRAY PAINTS WITH THE HIGHEST LEAD CONTENT PER BRAND

The top 12 spray paints with the highest lead content per brand.
ECOWASTE COALITION

RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
1	Automatic	China	Orange yellow	212,000	
2	Best Drive Extreme One	Not indicated	Orange red	124,000	
3	Tacoma (old variant)	China	Yellow	99,900	
4	Meng Qi Bo Shi Qi Pai Zidong Penqi	(foreign characters)	Grass green	97,100	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
5	Koby	Not indicated	Medium yellow	95,800	
6	King Sfon	Not indicated	Lemon yellow	91,100	
7	One Take	China	Green	88,900	
8	Sinag	Not indicated	Lemon yellow	85,800	
9	Howar	China	Art yellow	71,900	
10	Korona	Thailand	Yellow	64,800	
11	Haifei	China	Light green	64,000	
12	Colorz	Thailand	Fresh green	62,900	

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TABLE 2 | LEAD CONTENT OF ANALYZED SPRAY PAINTS

RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
1	Anton	China	Grass green	53,400	
2	Anton	China	Refrigerator green	31,400	
3	Anton	China	Gongcheng orange red	33,100	
4	Anton	China	Medium yellow	57,100	
5	Automatic	China	Grass green	55,900	
6	Automatic	China	Grain yellow	4,950	
7	Automatic	China	Lemon yellow	182,000	
8	Automatic	China	Orange	212,000	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
9	Automatic	China	Jialing red	44,700	
10	Best Drive Extreme One	Not indicated	Deep green	47,700	
11	Best Drive Extreme One	Not indicated	Grass green	97,500	
12	Best Drive Extreme One	Not indicated	Lemon yellow	94,700	
13	Best Drive Extreme One	Not indicated	Orange red	124,000	
14	Colorz	Thailand	Fresh green	62,900	
15	Colorz	Thailand	Orange red	5,810	
16	Colorz	Thailand	Canary yellow	31,200	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
17	Colorz	Thailand	Orange yellow	42,800	
18	Colorz Chisai	Thailand	Fresh green	18,600	
19	Colorz Chisai	Thailand	Lemon yellow	55,200	
20	F1	Not indicated	Fluorescent orange yellow	11,500	
21	F1	Not indicated	Leaf green	56,100	
22	F1	Not indicated	Medium yellow	50,800	
23	Haifei	China	Light green	64,000	
24	Haifei	China	Jialing red	42,800	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
25	Haifei	China	Art yellow	62,000	
26	Howar	China	Art yellow	71,900	
27	King Sfon	Not indicated	Gold	42,800	
28	King Sfon	Not indicated	Orange	48,200	
29	King Sfon	Not indicated	Orange red	85,800	
30	King Sfon	Not indicated	Silver red	19,500	
31	King Sfon	Not indicated	Lemon yellow	91,100	
32	King Sfon	Not indicated	Orange yellow	47,600	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
33	King Sfon	Not indicated	Yellow	50,100	
34	Koby	Not indicated	Deep yellow	69,200	
35	Koby	Not indicated	Medium yellow	95,800	
36	Korona	Thailand	Rose pink	428	
37	Korona	Thailand	Signal red	1,110	
38	Korona	Thailand	Orange	50,900	
39	Korona	Thailand	Violet	1,200	
40	Korona	Thailand	Yellow	64,800	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
41	Meng Qi Bo Shi Qi Pai Zidong Penqi	(foreign characters)	Grass green	97,100	
42	Meng Qi Bo Shi Qi Pai Zidong Penqi	(foreign characters)	Red	4,330	
43	Meng Qi Bo Shi Qi Pai Zidong Penqi	(foreign characters)	Lemon yellow	51,900	
44	MKT	China	Art yellow	50,700	
45	MR. D.I.Y.	China	Apple green	6,820	
46	MR. D.I.Y.	China	Orange	10,400	
47	MR. D.I.Y.	China	Sugar cane	8,910	
48	One Take	China	Green	88,900	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
49	RStar	China	Medium yellow	48,700	
50	Sanvo	Not indicated	Grass green	4,500	
51	Silvestre	Not indicated	High temp yellow	54,300	
52	Sinag	Not indicated	Sky blue	2,330	
53	Sinag	Not indicated	Fresh green	31,800	
54	Sinag	Not indicated	Grass green	34,600	
55	Sinag (old variant)	Not indicated	Grass green	45,500	
56	Sinag	Not indicated	Red oxide	4,850	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
57	Sinag	Not indicated	Canary yellow	46,900	
58	Sinag	Not indicated	Cream yellow	1,700	
59	Sinag	Not indicated	Orange yellow	35,100	
60	Sinag	Not indicated	Lemon yellow	85,800	
61	Standard	Not indicated	Gem green	38,500	
62	Standard	Not indicated	Leaf green	22,900	
63	Standard	Not indicated	Post green	51,800	
64	Standard	Not indicated	Deep yellow	48,900	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
65	Super 7	Not indicated	Leaf green	13,100	
66	Super 7	Not indicated	Yellow	31,200	
67	Tacoma (old variant)	China	Fluorescent green	28,400	
68	Tacoma (old variant)	China	Green	75,500	
69	Tacoma (old variant)	China	Fluorescent orange	21,600	
70	Tacoma (old variant)	China	Red	195	
71	Tacoma (old variant)	China	Fluorescent yellow	2,650	
72	Tacoma (old variant)	China	Yellow	99,900	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
73	Veslee	China	Grass green	22,400	
74	Veslee	China	Lemon yellow	45,900	
75	Yandy	China	Apple green	3,580	
76	Yandy	China	Blackish green	15,400	
77	Yandy	China	Grass green	30,500	
78	Yandy	China	Fresh green	2,090	
79	Yandy	China	Leaf green	32,100	
80	Yandy	China	Shifeng green	14,200	

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RANK	BRAND	COUNTRY OF MANUFACTURE	COLOR	LEAD CONTENT (ppm)	
81	Yandy	China	Jialing red	24,600	
82	Yandy	China	Canary yellow	42,200	
83	Yandy	China	Medium yellow	46,700	
84	Yandy	China	Orange yellow	35,500	
85	Yao Dong Bang	Not indicated	Fresh green	26,100	

TABLE 3 | DISTRIBUTION OF LEAD CONCENTRATION BY COLOR

	Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
YELLOW				2,650	212,000
	35	35	31		

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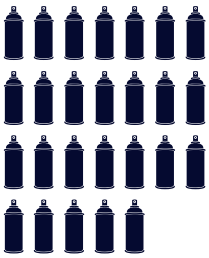
GREEN

Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
			2,090	97,500
30	30	26		

RED

Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
			195	124,000
12	12	7		

ORANGE

Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
			10,400	50,900
4	4	4		

BLUE

Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
		0	2,330	2,330
1	1			

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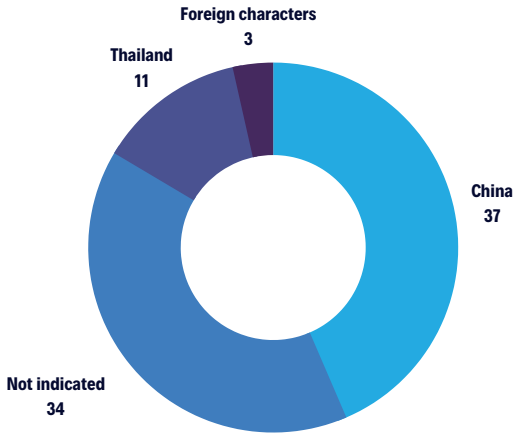
	Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
GOLD	1	1	1	42,800	42,800

	Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
PINK	1	1	0	428	428

	Number of samples	Number of samples above 90 ppm	Number of samples above 10,000 ppm	Minimum lead content (ppm)	Maximum lead content (ppm)
VIOLET	1	1	0	1,200	1,200

TABLE 4 | COUNTRY OF MANUFACTURE OF ANALYZED SPRAY PAINTS



REFERENCES

- https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health
- https://ipen.org/sites/default/files/documents/ipen-lead-spray-paint-philippines_v1_2-webhq.pdf
- https://ipen.org/documents/lead-solvent-based-industrial-paints-sold-philippines
- https://chemical.emb.gov.ph/wp-content/uploads/2017/03/DAO-2013-24-CCO-Lead.pdf