World Health Organization

Global Alliance to Eliminate Lead Paint

Update on the global status of legal limits on lead in paint

December 2021

Update on the global status of legal limits on lead in paint, December 2021

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Global perspective

New in the 2021 Global Update

New laws: Georgia, Lao People's Democratic Republic, Morocco, Peru and Ukraine established new laws to address lead in paint. Jordan updated an existing lead paint law.

New tools: A new version of the map showing the status of legally binding controls on lead paint contained in the World Health Organization (WHO) Global Health Observatory was published in December 2021. Improvements were made to the supporting data to show a brief description of the relevant law. In October 2021, WHO guidelines for clinical management of exposure to lead were launched to help health-care providers recognize and provide care to individuals who have had exposure to lead. In addition, WHO published a series of outreach and advocacy materials to support its partners in organizing events towards elimination of lead paint. The Lead Paint Alliance updated the Lead Paint Regulatory Toolkit and the United Nations Environment Programme (UNEP) developed a lead in paint laboratory database.

New momentum: Even with the ongoing coronavirus disease 2019 (COVID-19) global pandemic, many countries are continuing to take steps to eliminate lead paint. Many of these actions have been the result of virtual consultations and meetings at both the country and regional level under the Strategic Approach to International Chemicals Management (SAICM) Global Environment Facility (GEF) project on lead paint. In addition, the WHO Regional Office for Africa, the Pan American Health Organization (PAHO) and UNEP regional offices conducted regional webinars in Africa and the Caribbean. UNEP conducted four global online discussions of the Lead in Paint Community of Practice.

Global progress towards eliminating lead paint

As of 31 December 2021, 84 countries – comprising 43% of all countries – have legally binding controls to limit the production, import and sale of lead paints (*see Endnote 1*). In the majority of countries worldwide, using lead paint in homes and schools is not prohibited, creating a significant risk of children's exposure to lead. The most effective means of preventing lead exposure from paints is to establish national laws – including legislation, regulations and/or legally binding standards as appropriate – that ban the use of lead additives in paints. Countries that have not yet done so are urged to enact and enforce effective national legislation, regulations and/or standards to, at a minimum, stop the manufacture, import and sale of household decorative lead paints. Countries are also encouraged to consider limiting lead in all types of paints.

This update is provided annually in support of the work of the Global Alliance to Eliminate Lead Paint (Lead Paint Alliance). UNEP and WHO serve as the joint Secretariat for this international voluntary initiative (*see Endnote 2*). The Lead Paint Alliance was formally launched in 2011 to help achieve international goals to prevent children's exposure to lead from paints containing lead, and to minimize occupational exposure to lead paint.

The Lead Paint Alliance promotes and coordinates the efforts of diverse stakeholders, including governments, industries, nongovernmental organizations (NGOs) and intergovernmental organizations (IGOs), to protect people around the world from exposure to lead from paint. The key priority of the Lead Paint Alliance is to promote establishing lead paint laws in all countries through appropriate national regulatory frameworks to stop the manufacture, import and sale of lead paint.

The concentration limit for total lead recommended by the Model Law and Guidance for Regulating Lead Paint is **90 parts per million (ppm)**. It is the lowest, most protective regulatory limit for lead paint that has been set in countries. This limit is not health based, but represents a low, technically feasible limit for paint manufacturers to achieve, as outlined in the Global elimination of lead paint: why and how countries should take action – Technical brief.

Global perspective

Map 1 shows the percentage of countries as of 31 December 2021 with lead paint laws within each of the six UNEP regions (*see p. 24 for a list of countries by UNEP region*).[1] Table 1 lists the specific countries with lead paint laws by region.

Map 1: Percentage of countries with lead paint laws in each UNEP region, as of 31 December 2021

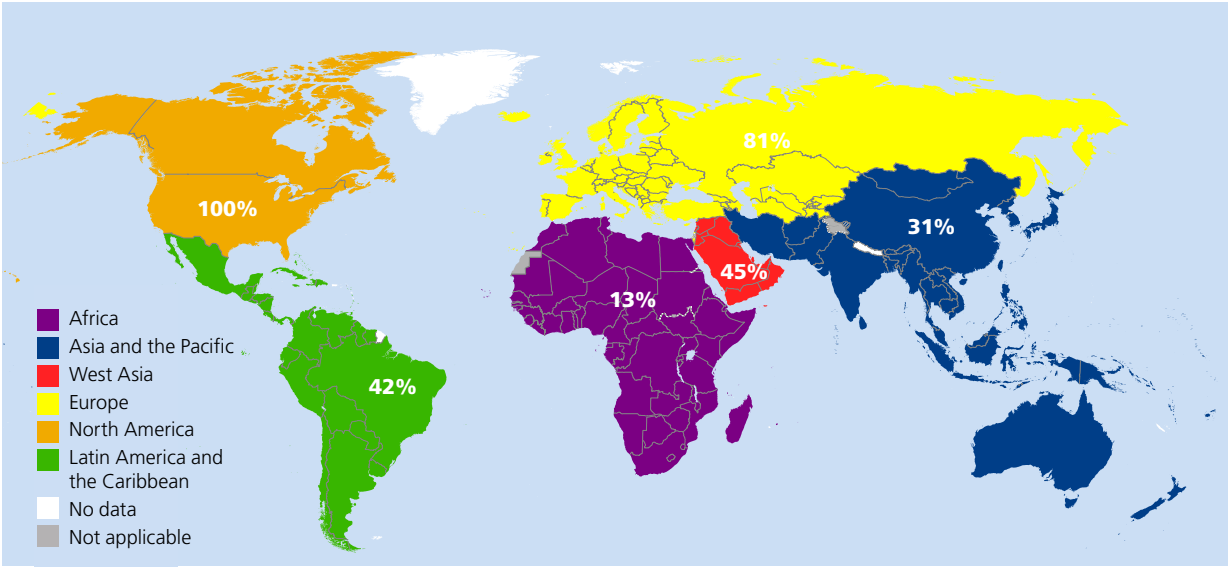


Table 1: Countries with confirmed lead paint laws in each UNEP region

Africa	Asia and the Pacific	West Asia	Europe			Latin America and the Caribbean	North America
Algeria	Australia	Iraq	Armenia	Israel	Russian Federation	Argentina	Canada
Cameroon	Bangladesh	**Jordan****	Austria	Italy	Serbia	Brazil	United States of America
Ethiopia	China	Lebanon	Belarus	Kyrgyzstan	Slovakia	Chile	
Kenya	India	Oman	Belgium	Latvia	Slovenia	Colombia	
Morocco*	**Lao People's Democratic Republic***	Qatar	Bulgaria	Liechtenstein	Spain	Costa Rica	
South Africa	Nepal		Croatia	Lithuania	Sweden	Cuba	
United Republic of Tanzania	New Zealand		Cyprus	Luxembourg	Switzerland	Dominica	
	Pakistan		Czech Republic	Malta	**Ukraine***	Ecuador	
	Philippines		Denmark	Monaco	United Kingdom	Guyana	
	Sri Lanka		Estonia	Montenegro		Mexico	
	Thailand		Finland	Netherlands		Panama	
	Viet Nam		France	North Macedonia		**Peru***	
			Georgia*	Norway		Trinidad and Tobago	
			Germany	Poland		Uruguay	
			Greece	Portugal			
			Hungary	Romania			
			Iceland				
			Ireland				

* New since 1 January 2021. ** Existing law revised.

1 | The designations employed and the presentation of material on the maps in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The depiction and use of boundaries, geographic names and related data shown on maps and included in lists and tables in this document are not warranted to be error free nor do they necessarily imply official endorsement or acceptance by the United Nations.

Countries that have only put in place legally binding controls on lead coatings used on children's toys are not counted in this update. Eliminating lead paint on children's toys provides only partial protection, since it does not address household decorative paints, from which much wider exposure is possible. Likewise, countries that have only ratified the International Labour Organization (ILO) White Lead (Painting) Convention, 1921 (No. 13), which prohibits the use of lead carbonate and lead sulfate in paints, are also not included in this update. Since these lead compounds are no longer widely used in paints, the ILO Convention alone does not provide sufficient benefit in reducing lead exposure.

Unless otherwise noted, all the data in the maps, tables and figures are from the WHO Global Health Observatory database, 31 December 2021 (*see Endnote 1*).

Global perspective

Lead exposure from paint

Historically, lead compounds have been added to oil-based decorative and industrial paints and other coatings to enhance colour, reduce corrosion on metal surfaces or shorten drying time. Today, non-leaded pigments, driers and anti-corrosive ingredients are widely available for use in most oil-based paints.

After the application of lead paint, weathering, peeling or chipping of the paint releases lead particles into dust and soil in and around homes, schools, playgrounds and other locations. Decorative paint for household use has been identified as the main source of children's lead exposure from paints. Lead-containing dust can also be brought into the home on the clothes of those who work in industries where such dust is generated, including paint factories where lead additives continue to be used.

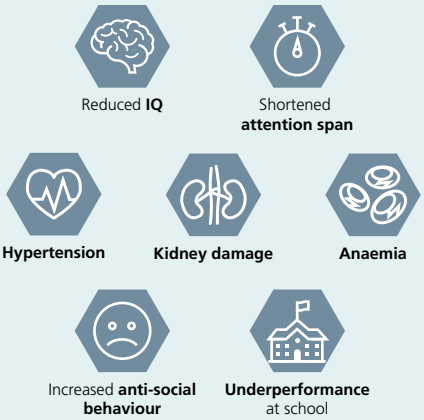
Lead-contaminated soil and dust are easily ingested, particularly by young children when they play on the floor or outdoors and put their hands or other objects in their mouths. Children also ingest lead if they mouth and chew toys painted with lead paint. Both children and adults can be exposed to lead in paint chips and dust during the removal of old lead paint.

Negative health effects from lead exposure

There is no known level of lead exposure that is considered safe. Lead can cause permanent damage to the brain and nervous system, resulting in decreased intelligence quotient (IQ) and increased behavioural problems. It can also cause anaemia, increase the risk of kidney damage and hypertension, and impair reproductive function. Young children and pregnant women (whose exposure to lead can result in exposure for the developing fetus) are especially vulnerable to the adverse effects of lead. Even relatively low levels of exposure can cause serious and irreversible neurological damage.

The Institute for Health Metrics and Evaluation (IHME) has estimated that, based on 2019 data, lead exposure accounted for 0.90 million deaths from long-term effects and 21.7 million disability-adjusted life years (DALYs) lost (0.86% of total DALYs) (*see Endnote 3*). The IHME has also estimated that lead exposure accounted for 62.49% of the global burden of idiopathic developmental intellectual disability (i.e. intellectual disability not due to known causes such as genetic factors), 8.21% of the global burden of hypertensive heart disease, 7.19% of the global burden of ischaemic heart disease and 5.65% of the global burden of stroke. In the 2021 update of the publication Public health impact of chemicals: knowns and unknowns WHO estimates that nearly half of the 2 million lives lost to chemicals exposure in 2019 were due to lead exposure and resulting cardiovascular diseases (*see Endnote 4*). There is a data gap due to the lack of gender disaggregated data in the area so it is unknown if there is a gender differentiated burden of diseases due to lead exposure.

Figure 1: Health effects of children's exposure to lead



Preventing health effects and related economic costs

The negative impacts on children's developing brains resulting from exposure to lead has staggering economic costs that are borne by the affected children, their families and societies at large. These include health-care costs, productivity losses and learning and development opportunity loss.

The largest economic burden of lead exposure is borne by low- and middle-income countries (LMICs). Estimated annual costs in international dollars (I$) of lead exposure by global region, based on loss of IQ, include the following: Africa – $134.7 billion; Latin America and the Caribbean – I$142.3 billion; and Asia – I$699.9 billion. For annual costs by country, refer to the New York University map, Economic costs of childhood lead exposure in LMICs (*see Endnote 5*).

The cost of removing existing decorative lead paint from surfaces in homes, schools and other buildings can be substantial. By contrast, the economic cost is low for eliminating the use of lead compounds in new decorative paints (*see Endnote 6*). In fact, many manufacturers have already successfully reformulated their paint products to avoid the intentional addition of lead. According to the paint industry, the reformulation of residential and decorative paints to eliminate lead additives is feasible, and the technical and cost impacts are manageable. Increasingly, paint producers are publicly stating that it is possible to eliminate lead additives in all types of paint.

Timeline of global activity (2011-2017)

Lead is a cumulative toxicant that poses serious risks to human health and development, with children being especially vulnerable. WHO has identified lead and its compounds as one of the top 10 chemicals of major public health concern. Lead-containing paint remains one of the major sources of lead exposure for children globally. The international community, governments, industry and NGOs are working together to promote the establishment of lead paint laws in all countries.

In 2009, the second International Conference on Chemicals Management under the SAICM policy framework nominated lead in paint as an emerging policy issue. The Lead Paint Alliance was established in 2011 to spearhead activities to promote the global phase-out of lead paint under the joint leadership of UNEP and WHO. It has the goal of phasing out the manufacture, import and sale of paints containing lead through legally binding controls in every country. The following timeline provides an overview of the Lead Paint Alliance's accomplishments.

2011

Global Alliance to Eliminate Lead Paint formally launched

Global Alliance to Eliminate Lead Paint

Lead Paint Alliance: Established jointly by UNEP and WHO.

2012

Global Alliance to Eliminate Lead Paint - Operational Framework

The operational framework provides information on the governance of the Lead Paint Alliance.

2012–2015

SWITCH-Asia Lead Paint Elimination Project

The European Union (EU) funded work led by the International Pollutants Elimination Network (IPEN) in seven Asian countries to help phase out lead paint. Five of the seven countries have passed lead paint laws.

2013

Global Alliance to Eliminate Lead Paint Business Plan

The Business Plan provides a roadmap describing the strategies, milestones and means of achieving the goals and overall objective of the Lead Paint Alliance. It is addressed to all persons and organizations interested in contributing to the work of the Alliance.

2014–2017

GEF Lead Paint Elimination Project in Africa

IPEN worked directly with four African countries and reached out to additional countries in that region to promote lead paint phase-out. Three countries ended up passing lead paint laws.

May 2017

WHO Chemicals Roadmap

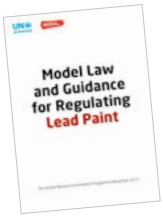
The Seventieth World Health Assembly approved the Roadmap, which includes an action item for WHO Member States to establish lead paint laws.

Timeline of global activity (2017-2021)

August 2017

American Bar Association (ABA) Resolution

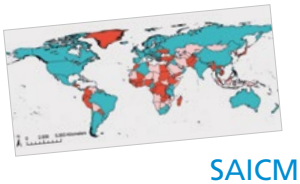
The ABA encouraged their members to support lead paint laws worldwide.



November 2017

Model Law and Guidance for Regulating Lead Paint

UNEP provided lead paint background information and a model template for a lead paint law.



2019–2022

SAICM GEF Project Lead in Paint Component

This project, implemented by UNEP in collaboration with partners, is assisting governments in over 60 countries to establish lead paint laws and is providing guidance to industry to facilitate the shift to producing non-lead paints.

June 2021

Three-Year Action Plan (2021–2023)

The Three-Year Lead Paint Alliance Action Plan laid out concrete actions for partners to promote lead paint elimination.

September 2017

2017 Update on the Global Status of Legal Limits on Lead in Paint

UNEP provided the first Global Status Update with lead paint background information and an update on progress towards establishing laws.

December 2017

Resolution on Lead Paint at the Third Session of the United Nations Environment Assembly

Member States passed a resolution calling for the global elimination of lead paint through the establishment of lead paint laws.

August 2020

WHO Technical and Policy Briefs

WHO published a policy brief and a technical brief on *Global elimination of lead paint: why and how countries should take action,* which were developed jointly with UNEP.

June 2021

Global Alliance to Eliminate Lead Paint Business Plan (Addendum)

The Addendum to the Business Plan extends its time frame from 2020 to 2023 and aligns the Business Plan with current and planned activities. It also provides extended and new targets for achieving the goals and objectives of the Lead Paint Alliance and concrete actions for partners to take to promote lead paint elimination.

Global status of lead paint laws

Map 2 shows data on the status of countries' lead paint laws as provided by governments to UNEP and WHO (*see Endnote 1*). As of 31 December 2021, 84 countries had confirmed that they have legally binding controls on lead in paint, 77 stated that they do not and information was unavailable for the remaining 32 countries (*see Figure 2*).

Map 2: Countries with lead paint laws, as of 31 December 2021

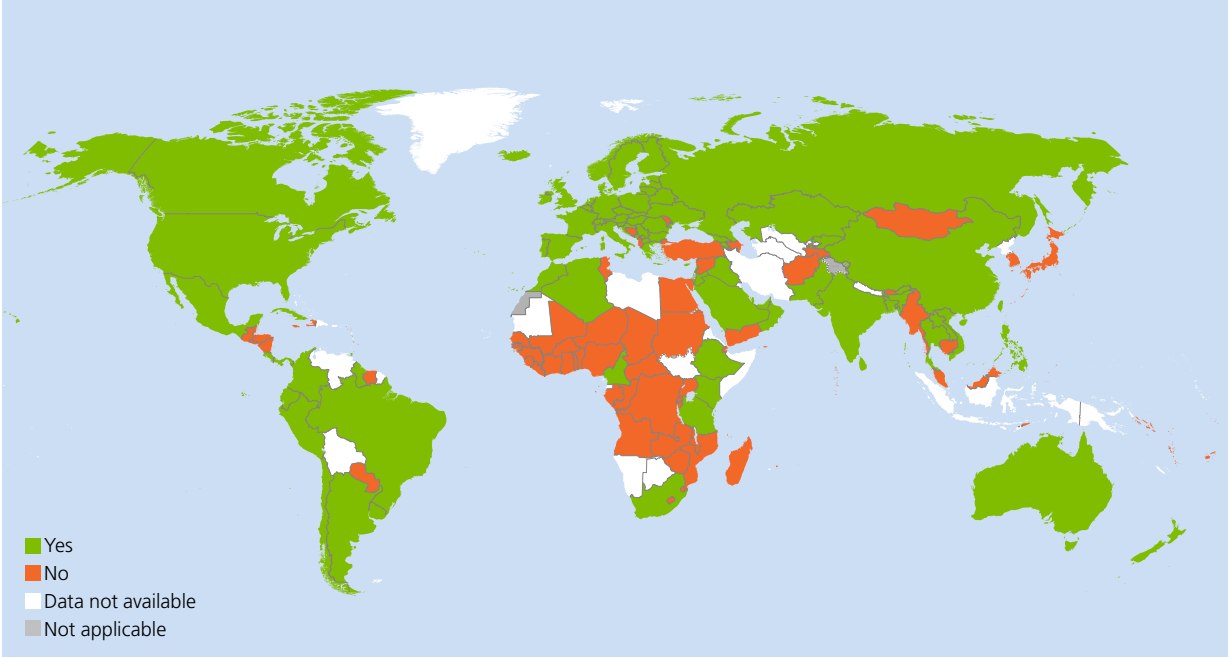
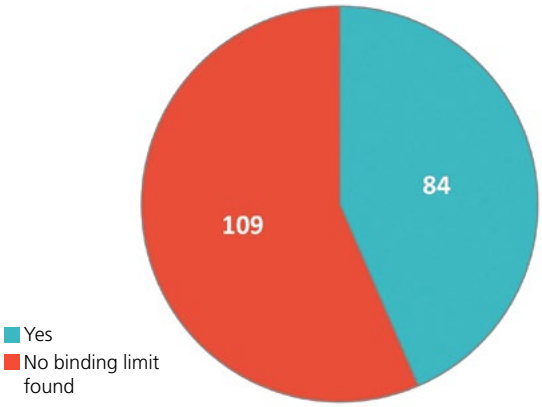


Figure 2: Countries with lead paint laws



Currently, **84** countries have lead paint laws and more countries are passing new laws every year.

High levels of lead still present in paint in many countries

Since 2009, more than 100 studies from 59 countries have shown that lead paints are still widely sold in LMICs. Most of the paints tested for lead were found to exceed the 90 ppm or 600 ppm legal limit used for comparison and which have been set by many countries as an achievable limit. In addition, many of these paints contained very high levels of lead: above 10 000 ppm of the dry weight of the paint. To see paint testing results by country, go to the link for the IPEN map entitled "Lead Levels in Paint Around the World" (*see Endnote 6*). IPEN is a Lead Paint Alliance partner and is an international public interest, non-profit organization comprising hundreds of participating environmental and public health organizations in over 120 countries, primarily in developing and transition countries.

Global momentum towards laws

The importance of lead paint laws

The elimination of lead exposure at its source, such as through establishing laws to stop the manufacture, sale and import of lead paint, is the single most effective action to protect people from the harmful effects of lead. Most industrialized countries adopted laws or regulations to control the lead content of residential and decorative paints in the 1970s and 1980s, based on clear findings that lead-containing household paint is a major source of lead exposure in children. However, the continued use of lead in paint in many parts of the world remains a significant source of exposure. To protect human health, laws, regulations or enforceable standards are needed in every country to stop the manufacture, sale and import of lead-containing paints (see Policy and Technical briefs: Global elimination of lead paint: why and how countries should take action).

Recent progress towards lead paint laws

The Lead Paint Alliance is making progress towards its goal of eliminating lead paint through the establishment of lead paint laws in all countries. Currently, 43% (84 countries) of United Nations (UN) Member States have adopted lead paint laws, and the Lead Paint Alliance is aware of another 18% (35) that are in the early and final stages of drafting laws (*as shown in Figure 2*).

Since January 2019 and the implementation of the SAICM GEF project on lead paint, the Lead Paint Alliance has been actively working with over 60 countries to assist them in taking steps towards developing lead paint laws. Building on existing progress, the project has led to an increase in the number of countries working on and advancing through the stages towards finalizing a lead paint law (*see Figure 3*). The stages are:

STAGE 0: Steps towards laws not yet taken – Countries where no progress has been recorded since the beginning of the project.

STAGE 1: Government initial interest – Countries that have contacted partners, designated a focal point, submitted a country approach document, or participated in the 2019 "Promoting Regulatory Action by Governments to Phase Out Lead in Paint" regional workshops.

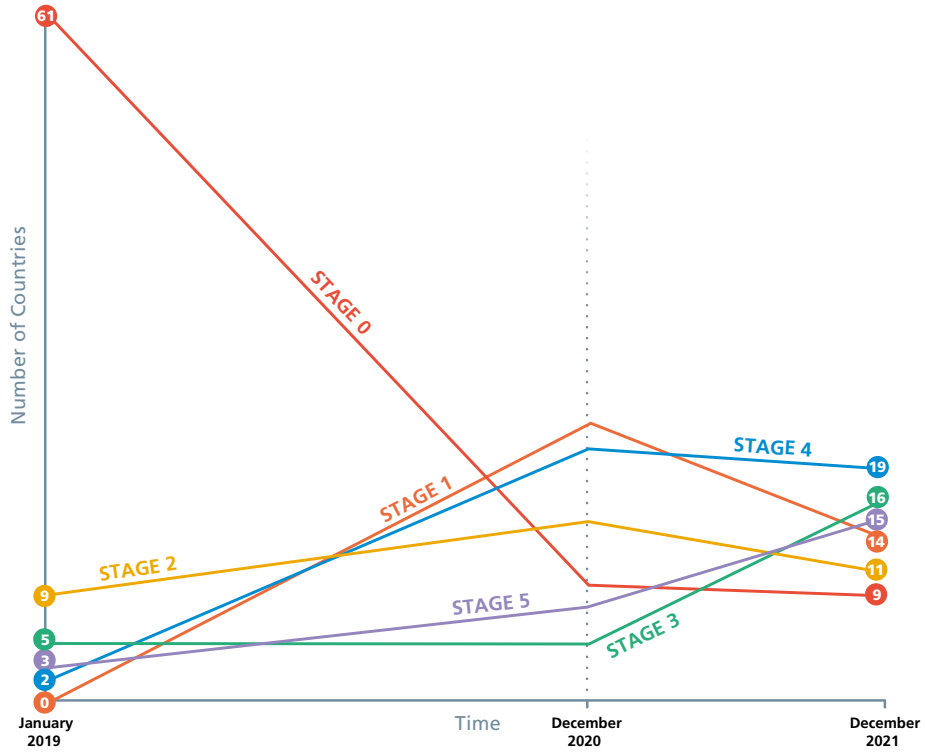
STAGE 2: First steps taken – Countries with plans to draft a law or that have held a stakeholder meeting.

STAGE 3: Early stages of drafting – Countries that have organized a drafting meeting and have produced a draft law.

STAGE 4: Final stages of drafting – Countries that have produced a final draft law and are awaiting political validation and endorsement.

STAGE 5: Final lead paint law – Countries that have enacted a lead paint law.

Figure 3: SAICM GEF project countries making progress towards laws, January 2019 to December 2021



Global approaches to lead paint laws

Countries that have enacted laws to limit the lead content in paint have generally used one of two approaches: (1) establish a single regulatory limit on the total concentration of lead in paint from all sources (currently used in 45 countries) or (2) establish a set of chemical-specific regulatory limits based on the management of risks of individual lead compounds that are used as additives in paint (currently used in the EU's Registration, Evaluation, Authorisation and Restriction of Chemical [REACH] regulation). Both approaches have been effective in limiting the lead content in paint.

Legal approach 1: Regulatory limits on total lead concentration

Of the 84 countries with lead paint laws, 45 have established a single regulatory limit on the total or soluble lead concentration in paint (in ppm). These existing lead limits range from 90 to 1000 ppm or higher. Thirty-nine (39) countries have a limit of 90, 100 or 600 ppm, which are all relatively low levels and indicate that lead compounds have probably not been added to the paint (*see Table 2 and Figure 4*).

Figure 4: Percentage of countries by lead concentration limit

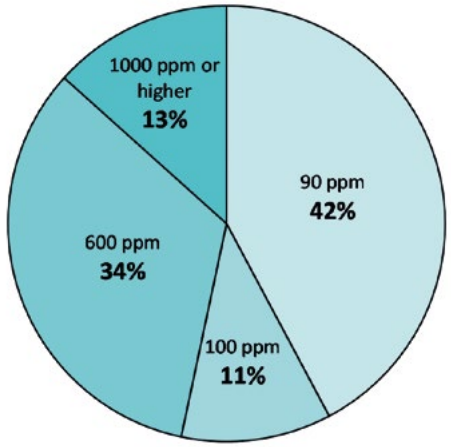


Table 2: Countries with limits on total lead concentration

90 ppm	100 ppm	600 ppm	1000 ppm or higher
Bangladesh	Ecuador	Argentina	Algeria
Cameroon	Pakistan	Brazil	Armenia
Canada	Switzerland	Chile	Australia
China	Thailand	Costa Rica	Belarus
Colombia	United Republic of Tanzania	Dominica	Cuba
Ethiopia		Guyana	New Zealand
Georgia*		Mexico	
India		Oman	
Iraq		Panama	
Israel		Qatar	
Jordan**		South Africa	
Kenya		Sri Lanka	
Lao People's Democratic Republic*		Trinidad and Tobago	
Morocco*		Uruguay	
Nepal		Viet Nam	
Peru*			
Philippines			
Ukraine*			
United States of America			

* New since 1 January 2021.
** Existing law revised.

Legal approach 2: Chemical-specific regulatory limits

Chemical-specific regulatory limits are used by 39 countries, of which 31 have adopted the EU REACH regulation on lead compounds in paints. EU REACH restricts the addition of certain specific lead compounds to paints intended for supply to the general public, based on risk management assessments. Some specific lead compounds for use in paints are subject to an authorization procedure for manufacturers and importers that requires analyses of health and environmental risks and the availability of non-lead alternatives (*see Table 3*).

Table 3: Countries with chemical-specific regulatory limits

Austria^	Czech Republic^	Germany^	Italy^	Liechtenstein^	Montenegro	Poland^	Slovakia^
Belgium^	Denmark^	Greece^	Kazakhstan	Lithuania^	Netherlands^	Portugal^	Slovenia^
Bulgaria^	Estonia^	Hungary^	Kyrgyzstan	Luxembourg^	North Macedonia	Romania^	Spain^
Croatia^	Finland^	Iceland^	Latvia^	Malta^	Norway^	Russian Federation	Sweden^
Cyprus^	France^	Ireland^	Lebanon	Monaco		Serbia	United Kingdom^

^ Countries that have adopted the EU REACH regulation.

Lead Paint Alliance activities in 2021

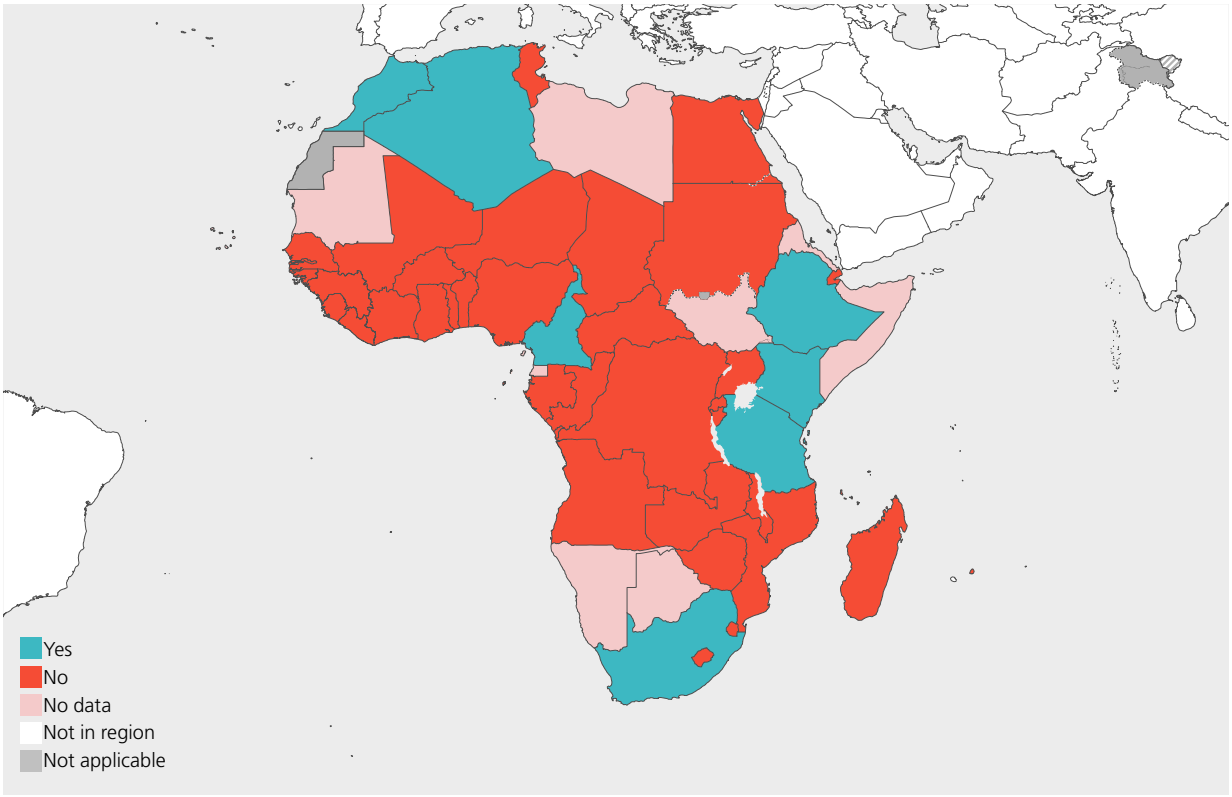
Events

- Validation Workshop on the Paint Reformulation Guidelines: The April 2021 workshop was organized by the National Cleaner Production Center (NCPC) of Serbia and attended by organizations supporting pilot demonstrations of lead paint reformulation as part of the SAICM GEF Lead Paint Project. Lessons learned and best practices were exchanged among the participants, the paint reformulation technical guidelines were validated and a dissemination plan for the guidelines was discussed.
- Ninth International Lead Poisoning Prevention Week (ILPPW), 24–30 October 2021: This annual campaign raises awareness about lead poisoning and highlights the efforts of countries and Alliance partners to prevent childhood lead poisoning. The theme was "Working together for a world without lead paint". During the 2021 campaign, 104 events occurred in 58 countries, including school events, art competitions, statements of support, policy debates, training workshops and scientific conferences. A full suite of customizable campaign materials were made available.
- Lead in Paint Community of Practice Discussions: UNEP facilitated discussions among lead paint practitioners in four sessions and provided digests and presentations from the discussions.
  - Where are there laws? A global and regional overview: UNEP and WHO presented the 2020 Update on the Global Status of Legal Limits on Lead in Paint that reports on new laws, new tools and momentum in global progress towards eliminating lead in paint. Participants shared information about the status of laws in their countries.
  - Reformulation is entirely possible: Participants representing industry, NGOs, government and academia exchanged information and shared the status of paint reformulation in their company, community or country; successes they were aware of; motivators for companies to reformulate their paints; and ways to overcome potential barriers to reformulation.
  - Making the case: raising awareness about the importance of lead paint laws: WHO discussed the opportunity presented by ILPPW, followed by case studies from Bangladesh, Georgia, Morocco and Peru – countries that have successfully used awareness raising efforts to bring attention to the need for lead paint laws. Participants discussed intended changes as a result of lead paint activities for ILPPW; how ILPPW activities have made a meaningful difference in raising awareness and motivating action in their country or region; and what was being planned for ILPPW 2021.
  - Is there lead in my paint? All about testing and labs: Speakers from UNEP, IPEN, Israel's Ministry of Health and Mercer University presented on their efforts related to lead paint testing, including UNEP's lead paint laboratory database, IPEN's market basket test procedure, how testing informed Israel's lead paint standard and Mercer's work to correlate portable test methods with laboratory methods.
- Toolkit for establishing laws to eliminate lead paint: The Lead Paint Alliance launched an update of the Toolkit for establishing laws to eliminate lead paint, which was developed in cooperation with key Alliance partners from governments, NGOs, IGOs, academia and industry sectors. The Toolkit contains new and updated modules, including case studies, to help support action towards lead paint laws, including on the need to regulate lead paint, paint basics, analytical methods for lead in paint, development of laws and awareness raising.
- UNEP Lead in Paint Laboratory Database: The database lists laboratories from all UN regions capable of identifying and quantifying lead in paint samples. For each listed laboratory, the database offers publicly available information of interest, such as contact details, number of staff, instrumentation, analytical techniques and accreditation.
- WHO guideline for clinical management of exposure to lead: WHO launched evidence-based recommendations for health-care providers to recognize and provide care to individuals who have been exposed to lead. The organization is also preparing guidelines on prevention of lead exposure, which will provide policy-makers, public health authorities and health professionals with evidence-based recommendations on the primary and secondary preventive measures that should be taken to protect the health of children and adults from exposure to lead.
- Report on activities during the Eighth ILPPW, 25–31 October 2020: This report offers lessons learned and examples of success from the 2020 campaign.
- WHO advocacy and awareness-raising guidance and tools: These tools provide support to governments to build momentum in countries towards development, adoption and implementation of lead paint laws.
- Updated lead paint law data and map for the WHO Global Health Observatory: The December 2021 update reflects the results of an annual survey to countries to ascertain the status of legally binding controls on the production, import, sale and use of lead paint. A database gives reference to the relevant law, key features and when it was introduced (*see Endnote 1*).

Status of lead paint laws in each region

Africa

Map 3: Countries in the Africa Region with lead paint laws, as of 31 December 2021

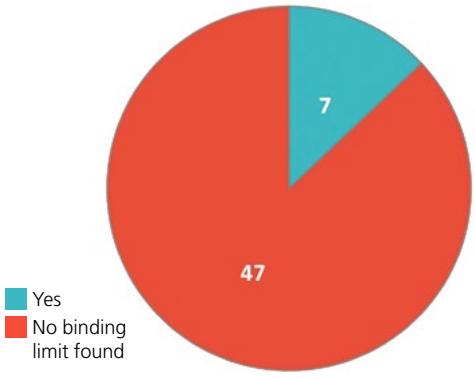


Current status

Seven countries (13%) in the Africa Region have lead paint laws (*Figure 5 and Table 4*). In August 2021, Morocco enacted a mandatory standard which set a 90 ppm limit for all paints. Benin, Congo, Ghana, Liberia, Senegal, Madagascar, Sierra Leone and Tunisia are drafting lead paint laws. Rwanda is in the final stages of approving a regulation to implement an East African Community (EAC) regional standard, and Zambia is developing a mandatory regulation to incorporate the 2020 voluntary standard limiting lead content to 90 ppm. Guinea and Nigeria are in the final stages of approval of a lead paint law. South Africa is in the final stages of revising an existing law to reduce the lead limit to 90 ppm. In September 2019, the EAC finalized the regional lead paint standard, setting the limit of lead in paint at 90 ppm. In November 2021, members of the Technical Harmonization Committee on Chemistry discussed a draft regional standard on paint and varnishes developed by the Secretariat of the Economic Community of West African States (ECOWAS), for national consultation in Member States.

Paint testing has been conducted in 21 countries in the Africa Region. Depending on the country study and the target level, levels of lead exceeding target levels of 90 or 600 ppm ranged from 25% to 86% of samples (*see Endnote 7*) – Lead Levels in Paint Around the World. The annual economic cost of childhood lead exposure in the Africa Region is estimated to be $134.7 billion, or 4.03% of regional gross domestic product (GDP) in 2011 (*see Endnote 5*).

Figure 5: Number of countries in the Africa Region with lead paint laws



Africa

Activities in the region

- The SAICM GEF project is actively working with 22 countries in the Africa Region to provide advice and facilitate in-person and online meetings to discuss development of lead paint laws.
- Congo, Cote d'Ivoire, Gambia, Madagascar, Togo, Tunisia and Zambia conducted multi-stakeholder meetings, webinars or workshops to further the development of lead paint laws.
- The Lead Paint Alliance provided comments on draft laws for ECOWAS, Congo, Guinea, Liberia, Madagascar and Senegal.
- May 2021: Ethiopia was shortlisted for the 2021 Future Policy Award for lead paint laws enacted in 2018. Through these awards, the World Future Council highlights the world's best solutions to the most pressing global challenges and encourages policy-makers around the world to adapt and implement them.
- August 2021: The ECOWAS Secretariat developed a draft regional standard and regulation on lead paint for review by Member States.
- October 2021: WHO and UNEP conducted a webinar for the African Region on lead paint during ILPPW.

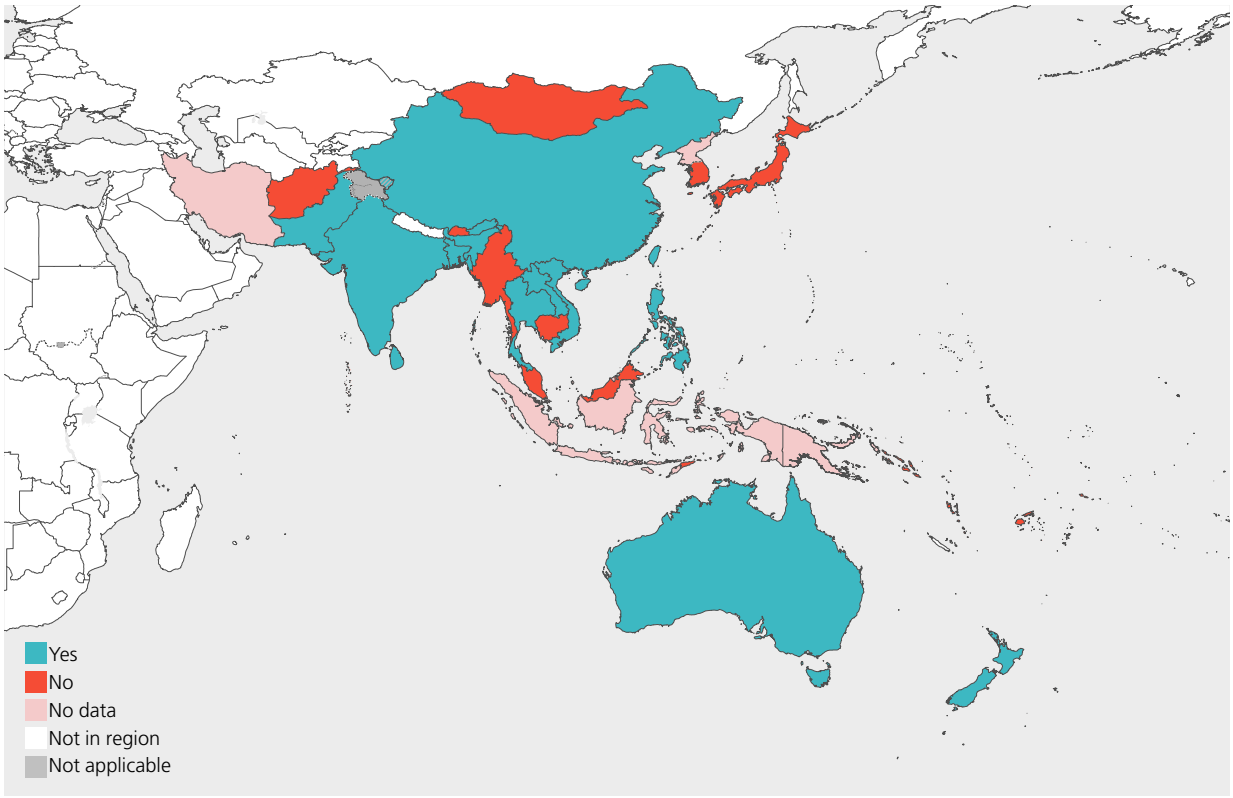
Table 4: 2021 Summary of country-specific lead paint laws in the Africa Region

Country	Lead paint laws
Algeria	5000 ppm lead limit for manufacture, import and sale of paints.
Cameroon	90 ppm lead limit and restricts specific lead additives.
Ethiopia	90 ppm lead limit for manufacture, import, export or sale of paints.
Kenya	90 ppm lead limit for manufacture, import and sale of all paints; sampling and testing requirements.
Morocco*	**90 ppm lead limit for manufacture, import and sale of paints.**
South Africa	600 ppm lead limit for manufacture, import and sale of paints; no testing or certification requirements.
United Republic of Tanzania	90 or 100 ppm lead limit, depending on the type of paint.

*New since 1 January 2021.

Asia and the Pacific

Map 4: Countries in the Asia and the Pacific Region with lead paint laws, as of 31 December 2021

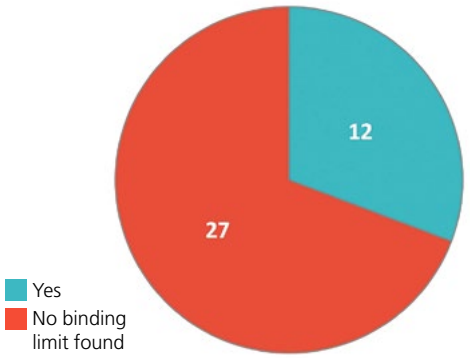


Current status

Twelve countries (31%) in the Asia and the Pacific Region have lead paint laws (*see Figure 6 and Table 5*). Lao People's Democratic Republic enacted a lead paint law with a 90 ppm lead limit for all paints. Malaysia developed a draft lead paint standard. Indonesia conducted a technical consultation and lowered the limit of an existing voluntary lead paint standard from 600 to 90 ppm. Cambodia continues to work on a new lead paint law. Mongolia implemented awareness raising campaigns and has started drafting a lead paint law.

Paint testing has been conducted in 14 countries in this region. Depending on the country studied and the target level, levels of lead exceeding target levels of either 90 or 600 ppm were found in approximately 3% to 91% of samples (*see Endnote 7* – Lead Levels in Paint Around the World). The annual economic cost of childhood lead exposure in Asia is $699.9 billion, or 1.88% of regional GDP (*see Endnote 5*).

Figure 6: Number of Countries in the Asia and the Pacific Region with lead paint laws



Asia and the Pacific

Activities in the region

- The SAICM GEF project is actively working with nine countries in the Asia and the Pacific Region to provide advice and to discuss awareness raising and development of lead paint laws.
- The Lead Paint Alliance provided comments on draft laws in Indonesia, Lao People's Democratic Republic and Malaysia.
- July 2021: The World Future Council awarded the Philippines Department of Environment and Natural Resources with the Future Policy Award for leadership on the lead paint law enacted in 2013. Through these awards, the World Future Council highlights the world's best solutions to the most pressing global challenges and encourages policy-makers around the world to adapt and implement them.

Table 5: 2021 summary of country-specific lead paint laws in the Asia and the Pacific Region

Country	Lead paint laws
Australia	1000 ppm lead limit for the sale, manufacture, import and export and import of all paints.
Bangladesh	90 ppm lead limit for decorative paints.
China	90 ppm lead limit for woodware and architectural paints; 1000 ppm lead limit for vehicle and industrial paints.
India	90 ppm lead limit for manufacture, trade, import and export of household and decorative paints.
Lao People's Democratic Republic*	**90 ppm lead limit for all paints.**
Nepal	90 ppm lead limit for any paints imported, produced, sold or used.
New Zealand	1000 ppm lead limit for the sale, manufacture, import and export of all paints.
Pakistan	100 ppm lead limit for interior and exterior enamel paints.
Philippines	90 ppm lead limit for architectural, decorative, household and industrial paints.
Sri Lanka	90 ppm lead limit for interior and exterior emulsion paints or 600 ppm lead limit for floor and enamel paints; paints used in the building industry that contain lead must be labelled as such, including their lead content.
Thailand	100 ppm lead limit for all paints.
Viet Nam	600 ppm lead limit as of December 2020 and 90 ppm lead limit as of December 2025 for certain paints.

*New since 1 January 2021.

West Asia

Map 5: Countries in the West Asia Region with lead paint laws, as of 31 December 2021

Current status

Five countries (45%) in the West Asia Region have lead paint laws (*see Figure 7 and Table 6*).

Paint testing was conducted in three countries. In the country that only recently established laws (Lebanon), levels of lead exceeding target levels of 90 or 600 ppm were found in 73% and 80% of samples, respectively. In the countries with laws (Iraq and Jordan), levels of lead exceeding target levels of 90 or 600 ppm were found in 12% to 42% of samples (*see Endnote 6* – Lead Levels in Paint Around the World).

Activities in the region

- The SAICM GEF project is actively working with one country (Jordan) in the West Asia Region to provide advice and to discuss awareness raising and development of lead paint laws.

Figure 7: Number of countries in the West Asia Region with lead paint laws

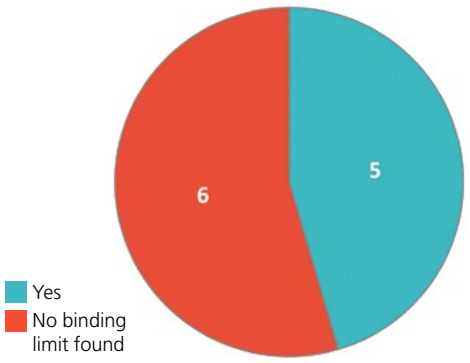


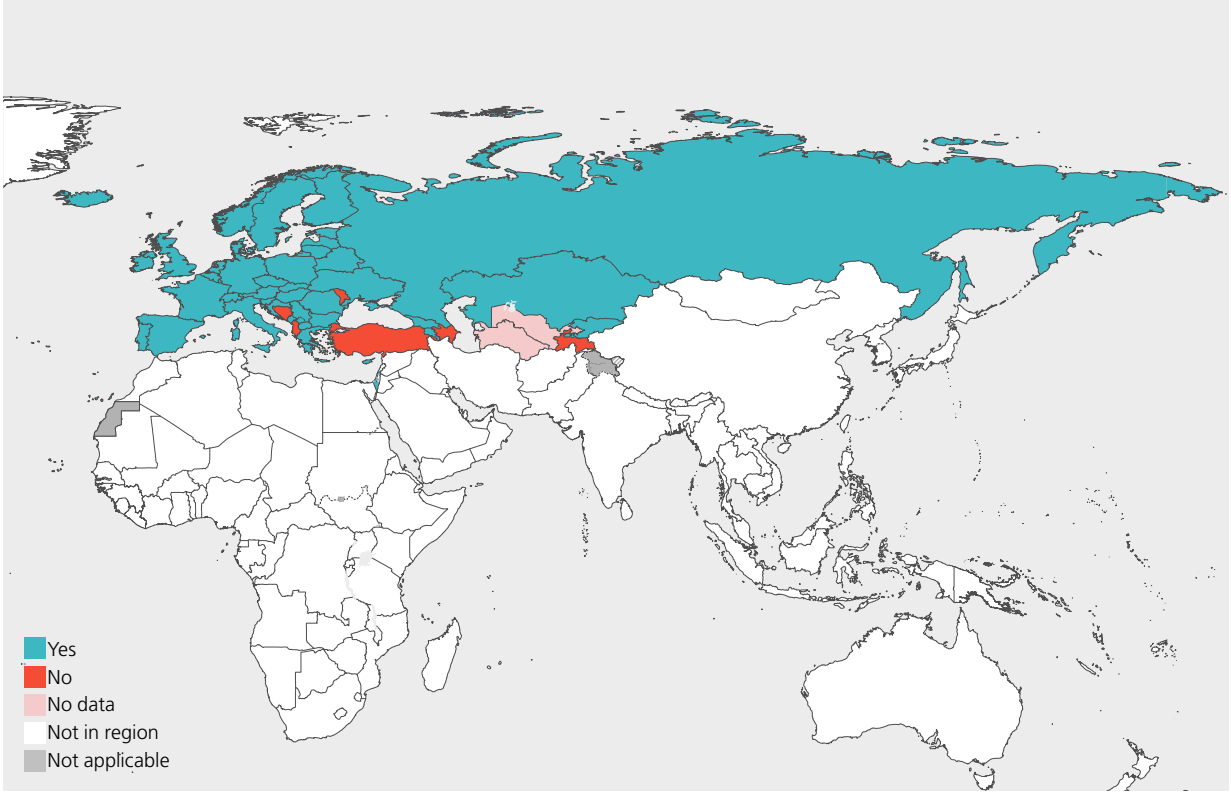
Table 6: 2021 Summary of country-specific lead paint laws in the West Asia Region

Country	Lead paint laws
Iraq	90 ppm lead limit.
Jordan**	**90 ppm total lead concentration limit for the import and sale of household and decorative paints; exceptions for industrial paints, car paints, road paints and artists' paints.**
Lebanon	Restricts use of lead compounds in interior and exterior paints.
Oman	600 ppm total lead concentration limit for handling, use, import or production of paints.
Qatar	Imported paints must be certified as containing no more than 600 ppm total lead.

**Existing law revised.

Europe

Map 6: Countries in the Europe Region with lead paint laws, as of 31 December 2021

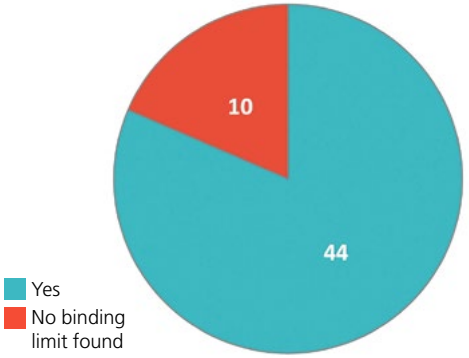


Current status

A total of 44 countries (81%) in the Europe Region have lead paint laws (*see Figure 8 and Table 7*). Georgia and Ukraine passed lead paint laws in 2021. Republic of Moldova is making progress towards adopting a law to regulate lead paint. A new law on chemicals was adopted in Bosnia and Herzegovina and enforcement will be harmonized with REACH, including the prohibition on lead in paints. Tajikistan continued progress towards finalizing a technical regulation for lead paint. The Eurasian Economic Union is continuing work on a regional technical regulation on lead paint.

Paint testing has been conducted in 10 countries in this region, some of which had existing laws. Depending on the country studied and the target level, levels of lead exceeding target levels of either 90 or 600 ppm were found in 26% to 94% of samples (*see Endnote 6* – Lead Levels in Paint Around the World).

Figure 8: Number of countries in the Europe Region with lead paint laws



Europe

Activities in the region

- The SAICM GEF project is actively working with nine countries in the Europe Region to provide advice and facilitate in-person and online meetings to discuss development of lead paint laws.
- Tajikistan conducted multi-stakeholder consultations on the draft lead paint standard.
- Republic of Moldova conducted multi-stakeholder workshops on the draft lead paint regulation.
- The Lead Paint Alliance provided comments on draft laws being developed in Georgia, Republic of Moldova and Ukraine.

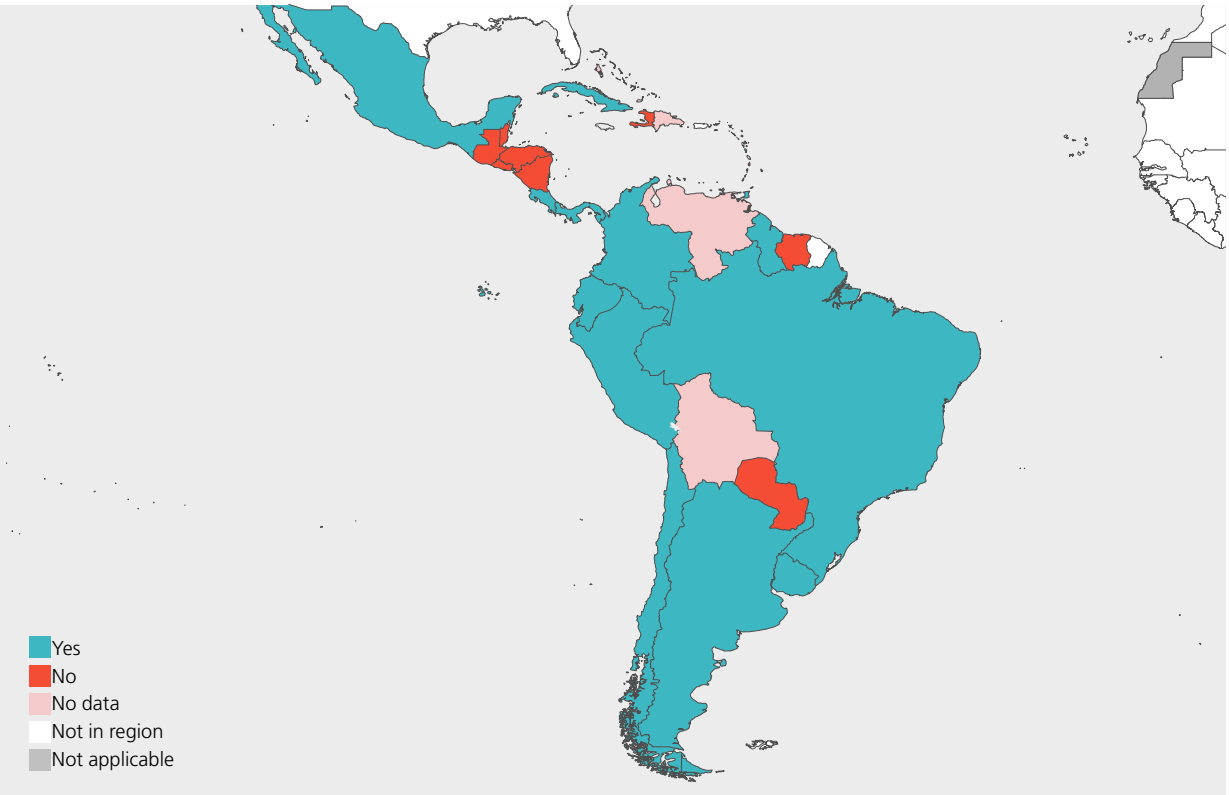
Table 7: 2021 Summary of country-specific lead paint laws in the Europe Region

Country	Lead paint laws
Armenia	5000 ppm limit for lead in driers in household paints and 150 000 ppm limit for lead in pigments in paints.
Belarus	5000 ppm limit for lead in driers in household paints and 150 000 ppm limit for lead in pigments in all paints.
31 countries in Europe Region	EU REACH restricts the addition of certain specific lead compounds to paints intended for use by the general public.
Georgia*	**90 ppm lead limit. Restricts manufacture, distribution and import of paints and varnishes for listed construction applications that exceed the lead limit; some exceptions, including artists' paints.**
Israel	90 ppm lead limit for all paints.
Kazakhstan	Restricts use of all lead compounds in paints intended for building interiors.
Kyrgyzstan	Restricts use of all lead compounds in paints intended for building interiors.
Monaco	Restricts use of certain lead compounds in paints.
Montenegro	Restricts use of certain lead compounds in paints.
North Macedonia	Restricts use of certain lead compounds in paints.
Russian Federation	Restricts use of lead and lead compounds in paints used for building interiors.
Serbia	Restricts use of certain lead compounds in paints; for industrial paints containing lead, precautionary labelling is required.
Switzerland	100 ppm lead limit for all paints offered for sale by manufacturers.
Ukraine*	**90 ppm lead limit for the manufacture of all types of paints, varnish materials and raw materials components.**

*New since 1 January 2021.

Latin America and the Caribbean

Map 7: Countries in the Latin America and the Caribbean Region with lead paint laws, as of 31 December 2021

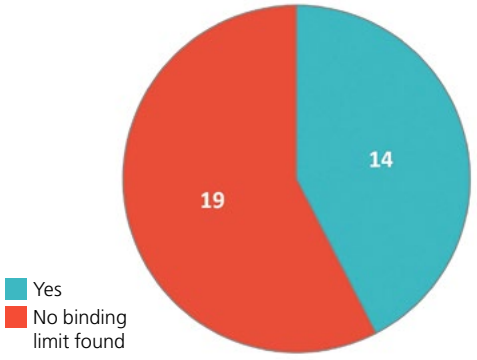


Current status

Fourteen countries (42%) in the Latin America and the Caribbean Region have lead paint laws (*see Figure 9 and Table 8*). Having passed laws earlier than much of the rest of the world, most countries in this region have chosen to establish a 600 ppm lead limit, which was the United States standard prior to 2009. For several years, Argentina, Brazil and Mexico have been at varying stages of updating existing laws and standards to reduce the lead limit from 600 ppm to 90 ppm. Peru passed a bill setting a lead limit of 90 ppm for the manufacture, import and sale of all paints. Colombia and Peru are developing implementing technical regulations. Ecuador has drafted updates to existing standards to lower the limit on select paints to 100 ppm, which are awaiting policy review. Jamaica has developed a draft standard for public comment. Guyana, Honduras, Panama and Saint Lucia are in various stages of developing or drafting laws. The Caribbean Community (CARICOM) is revising an existing voluntary lead paint standard.

Where paint testing was conducted in the two countries which do not have lead paint laws, levels of lead exceeding 90 or 600 ppm were found in 0% to 27% of samples, depending on the country study and the target level. In the eight countries with existing laws, levels of lead in paint exceeded target levels of 90 or 600 ppm in 0% to 90% of samples, depending on the country and the target limit (*see Endnote 6* – Lead Levels in Paint Around the World). The annual economic cost of childhood lead exposure in Latin America and the Caribbean is $142.3 billion, or 2.04% of regional GDP (*see Endnote 5*).

Figure 9: Number of countries in the Latin America and the Caribbean Region with lead paint laws



Latin America and the Caribbean

Activities in the region

- The SAICM GEF project is actively working with 18 countries in the Latin America and the Caribbean Region to provide advice and facilitate in-person and online meetings to discuss development of lead paint laws.
- The Lead Paint Alliance provided comments on draft laws for CARICOM, Guatemala and Jamaica, as well as guidance to Suriname as it considers drafting a law.
- April 2021: The Jamaican Paint and Surface Coatings Technical Committee met to discuss development of a lead paint standard.
- July 2021: The Lead Paint Alliance met with the Suriname National Instituut voor Milieu en Ontwikkeling (National Institute for Environment and Development in Suriname) in July 2021 to discuss options for regulating lead paint; the Lead Paint Alliance legal review team is in the process of reviewing a draft lead paint law.
- October 2021: UNEP Regional Office for Latin America and the Caribbean and PAHO co-hosted a webinar in Spanish on the status of and best regulatory practices on lead paint in Latin America, as part of the events during ILPPW 2021. The event highlighted the latest developments and results on lead paint laws in the region and presented the experiences of some countries in the region with recently adopted lead paint laws or that are in the process of drafting a lead paint law.
- October 2021: UNEP and the Caribbean Public Health Agency co-hosted a webinar on lead paint laws in the Caribbean region. The event highlighted the latest developments and results on lead paint laws in the region and presented the experiences of some countries in the region that are in the process of drafting a lead paint law.

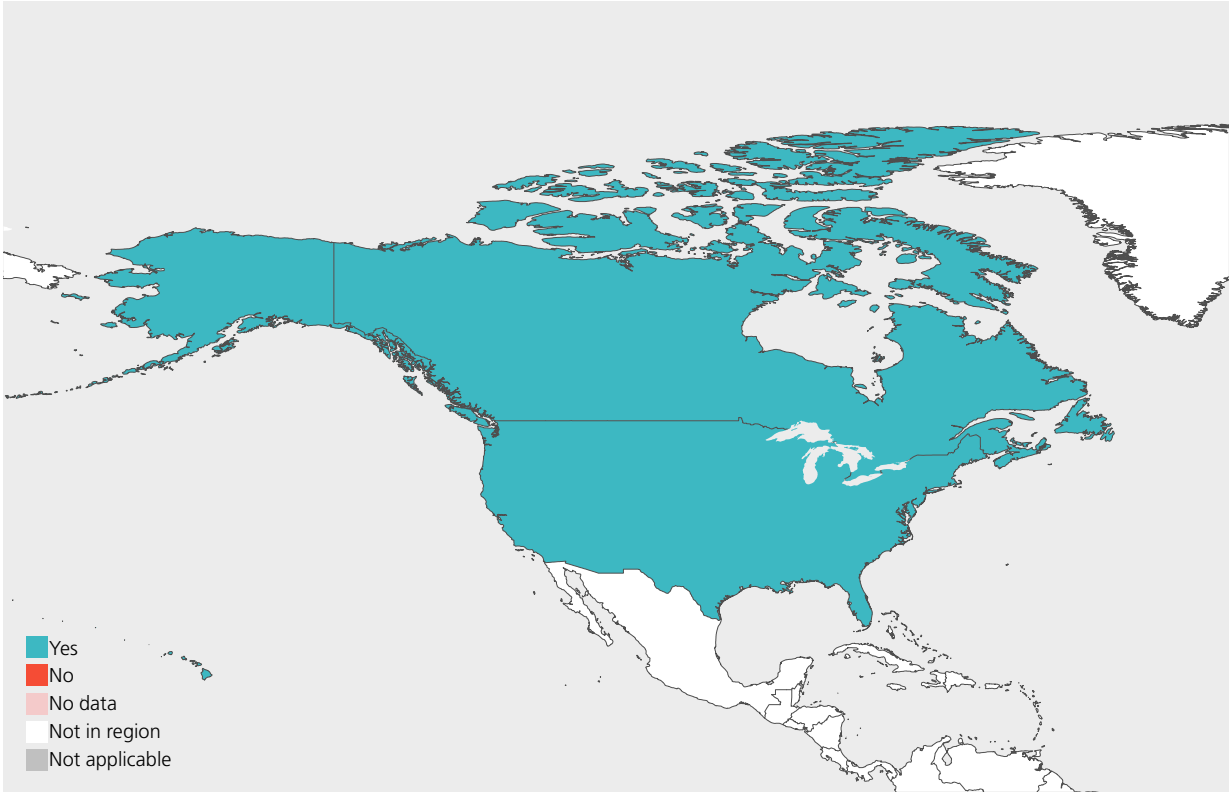
Table 8: 2021 Summary of country-specific lead paint laws in the Latin America and the Caribbean Region

Country	Lead paint laws
Argentina	600 ppm lead limit for the manufacture, import, distribution and marketing of paints; prohibits use of lead carbonate and lead sulfate and any other products containing these pigments.
Brazil	600 ppm lead limit for the manufacture, import, export and use of household paints.
Chile	600 ppm lead limit for import, export and sale of paints; exemptions include agricultural and industrial equipment, bridges, road markings, artists' materials and other applications.
Colombia	90 ppm lead limit for use, manufacture, import or commercialization of all paints.
Costa Rica	600 ppm lead limit for the manufacture, import, export and sale of paints.
Cuba	20 000 ppm lead limit for paints; some exceptions, including artists' paints and outdoor paints.
Dominica	600 ppm lead limit for household paints.
Ecuador	100 ppm lead limit for some paints for which there is a high likelihood of human contact; 600 ppm lead limit for other paints.
Guyana	600 ppm lead limit for the import and manufacture of paints.
Mexico	600 ppm lead limit for paints; some exceptions, including coatings for automotive vehicles and industrial or agricultural and gardening equipment.
Panama	600 ppm lead limit for the manufacture, import, sale and use of paints.
Peru*	**90 ppm limit for the manufacture, import and sale of all paints.**
Trinidad and Tobago	600 ppm lead limit for the import, export and manufacture of paints.
Uruguay	600 ppm lead limit for the production, import and sale of household and decorative paints; exemptions include paints for agricultural and industrial equipment, bridges and road markings.

*New since 1 January 2021.

North America

Map 8: Countries in the North America Region with lead paint laws, as of 31 December 2021



Current status

Two countries (100%) in the North America Region have lead paint laws (*see Figure 10 and Table 9*).

Paint testing was not conducted in this region.

Activities in the region

- The United States is the Chair of the Lead Paint Alliance and works closely with UNEP, WHO, Lead Paint Alliance partners and others to promote lead paint laws.

Figure 10: Number of countries in the North America Region with lead paint laws

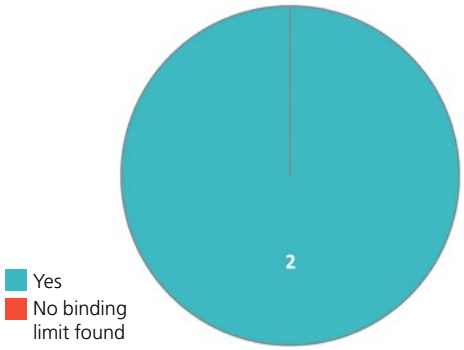


Table 9: 2021 Summary of country-specific lead paint laws in the North America Region

Country	Lead paint laws
Canada	90 ppm lead limit for paints and certain other surface coating materials that are manufactured, imported, advertised or sold in Canada.
United States	90 ppm lead limit for the manufacture, import and sale of household and decorative paints.

Lead Paint Alliance Partners

As of 31 December 2021, the Lead Paint Alliance had 103 partners representing 20 governments, five IGOs, 49 NGOs, 22 paint industry trade associations and manufacturing companies and seven academic institutions. The Alliance Secretariat convenes an Advisory Council which oversees the work of the Alliance, and members are drawn from Alliance partners. For more information on current partners or on how to become a partner, visit https://www.unep.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/global-alliance-eliminate-lead-paint.

Lead Paint Alliance Advisory Council

Secretariat

World Health Organization

UN environment programme 50 1972-2022

Governments


Colombia


Kenya


Republic of Moldova


Thailand


United States of America

NGOs

IPEN a toxics-free future

Health and Environment Alliance

ABA Rule of Law Initiative

Industry

World Coatings Council

AkzoNobel

BOYSEN The No.1 PAINT

UNEP Regions

For the purposes of this report, countries are grouped into the six UNEP regions (Table 10).

Table 10: Countries by UNEP region

Africa			Asia and the Pacific		West Asia
Algeria	Eswatini	Sao Tome & Principe	Afghanistan	Micronesia (Federated States of)	Bahrain
Angola	Ethiopia	Senegal	Australia	Mongolia	Iraq
Benin	Gabon	Seychelles	Bangladesh	Myanmar	Jordan
Botswana	Gambia	Sierra Leone	Bhutan	Nauru	Kuwait
Burkina Faso	Ghana	Somalia	Brunei Darussalam	Nepal	Lebanon
Burundi	Guinea	South Africa	Cambodia	New Zealand	Oman
Cameroon	Guinea-Bissau	South Sudan	China	Pakistan	Qatar
Cape Verde	Kenya	Sudan	Democratic People's Republic of Korea	Palau	Saudi Arabia
Central African Republic	Lesotho	Togo	Fiji	Papua New Guinea	Syrian Arab Republic
Chad	Liberia	Tunisia	India	Philippines	United Arab Emirates
Comoros	Libya	Uganda	Indonesia	Republic of Korea	Yemen
Congo	Madagascar	United Republic of Tanzania	Islamic Republic of Iran	Samoa	
Côte d'Ivoire	Malawi	Zambia	Japan	Singapore	
Democratic Republic of the Congo	Mali	Zimbabwe	Kiribati	Solomon Islands	
Djibouti	Mauritania		Lao People's Democratic Republic	Sri Lanka	
Egypt	Mauritius		Malaysia	Thailand	
Equatorial Guinea	Morocco		Maldives	Timor-Leste	
Eritrea	Mozambique		Marshall Islands	Tonga	
	Namibia			Tuvalu	
	Niger			Vanuatu	
	Nigeria			Viet Nam	
	Rwanda				

Europe			Latin America and the Caribbean		North America
Albania	Greece	Portugal	Antigua and Barbuda	Haiti	Canada
Andorra	Hungary	Republic of Moldova	Argentina	Honduras	United States of America
Armenia	Iceland	Romania	Bahamas	Jamaica	
Austria	Ireland	Russian Federation	Barbados	Mexico	
Azerbaijan	Israel	San Marino	Belize	Nicaragua	
Belarus	Italy	Serbia	Bolivia	Panama	
Belgium	Kazakhstan	Slovakia	Brazil	Paraguay	
Bosnia and Herzegovina	Kyrgyzstan	Slovenia	Chile	Peru	
Bulgaria	Latvia	Spain	Colombia	Saint Kitts and Nevis	
Croatia	Liechtenstein	Sweden	Costa Rica	Saint Lucia	
Cyprus	Lithuania	Switzerland	Cuba	Saint Vincent and the Grenadines	
Czech Republic	Luxembourg	Tajikistan	Dominica	Suriname	
Denmark	Malta	Turkey	Dominican Republic	Trinidad and Tobago	
Estonia	Monaco	Turkmenistan	Ecuador	Uruguay	
Finland	Montenegro	Ukraine	El Salvador	Venezuela	
France	Netherlands	United Kingdom	Grenada		
Georgia	Norway	Uzbekistan	Guatemala		
Germany	North Macedonia		Guyana		
	Poland				

Endnotes

1. WHO Global Health Observatory: Legally binding controls on lead paint [online map and database]: https://www.who.int/data/gho/data/themes/topics/indicator-groups/legally-binding-controls-on-lead-paint. Liechtenstein does however have a legally-binging law for lead paint and is included among the 84 countries reported in this Update document.
2. Global Alliance to Eliminate Lead Paint (Lead Paint Alliance) [website]: https://www.unep.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/global-alliance-eliminate-lead-paint.
3. Institute for Health Metrics and Evaluation GBD Compare [online database; select the "plot" chart in the left-hand side column and in Settings select "risk" under Display, "lead exposure" under Risk, "deaths" under Measure and "#" under Units; the number will show by placing the cursor on any dot in the chart]: https://vizhub.healthdata.org/gbd-compare/.
4. Chemical Safety and Health Unit. The public health impact of chemicals: knowns and unknowns. Geneva: World Health Organization; 2016 (with 2021 data addendum): https://www.who.int/publications/i/item/WHO-FWC-PHE-EPE-16-01.
5. New York University Grossman School of Medicine. Economic costs of childhood lead exposure in low- & middle-income countries [online database]: https://med.nyu.edu/pediatrics/research/environmentalpediatrics/leadexposure. For an explanation of the methodology please refer to https://med.nyu.edu/departments-institutes/pediatrics/divisions/environmental-pediatrics/sites/default/files/pediatrics/worldmap/images/Attina-Trasande_EHP2013.pdf
6. Attina TM and Trasande L (2013). Economic Costs of Childhood Exposure in Low- and Middle -Income Countries. Environmental Health Perspectives Volume 211.
7. International Pollutants Elimination Network (IPEN). Lead levels in paint around the world [online map and database]: http://ipen.org/projects/eliminating-lead-paint/lead-levels-paint-around-world.
8. Model law and guidance for regulating lead paint. Nairobi: United Nations Environment Programme; 2017: https://www.unep.org/resources/publication/model-law-and-guidance-regulating-lead-paint.

World Health Organization

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