World Health Organization

Global Alliance to Eliminate Lead Paint

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

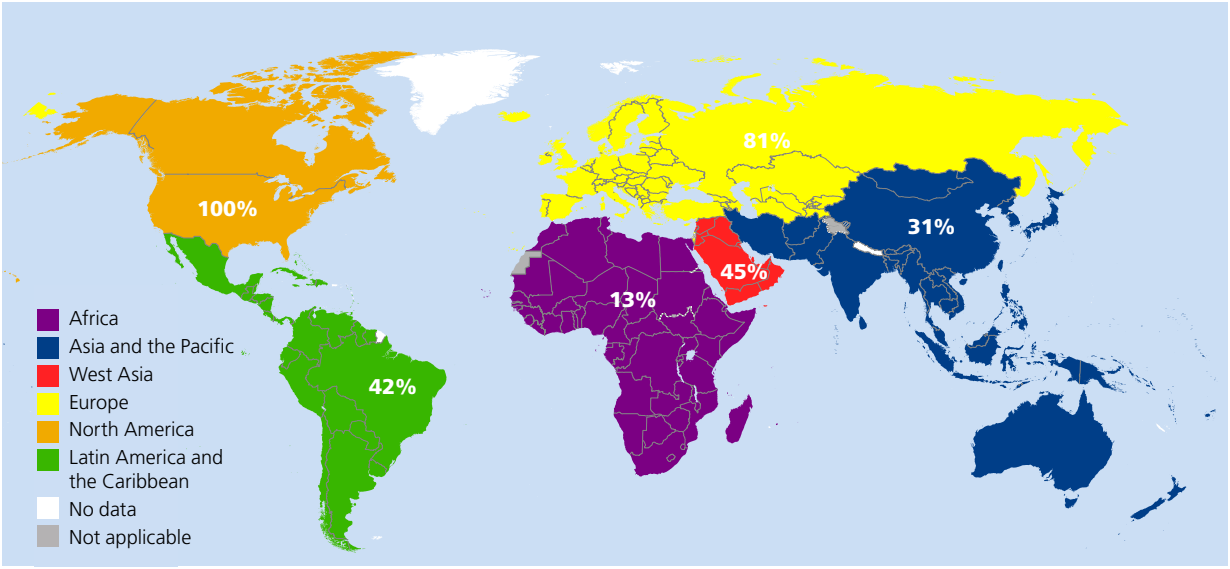


Table 1: Countries with confirmed lead paint laws in each UNEP region

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.

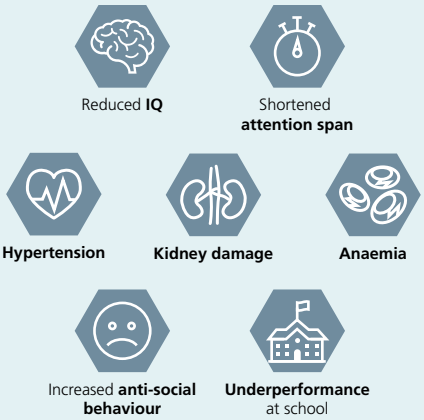
Lead-contaminated soil and dust are easily ingested, particularly by young children when they play on the floor or outdoors and put their hands or other objects in their mouths. Children also ingest lead if they mouth and chew toys painted with lead paint. Both children and adults can be exposed to lead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

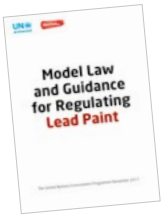
The Seventieth World Health Assembly approved the Roadmap, which includes an action item for WHO Member States to establish lead paint laws.

Timeline of global activity (2017-2021)

August 2017

American Bar Association (ABA) Resolution

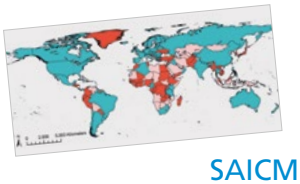
The ABA encouraged their members to support lead paint laws worldwide.



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

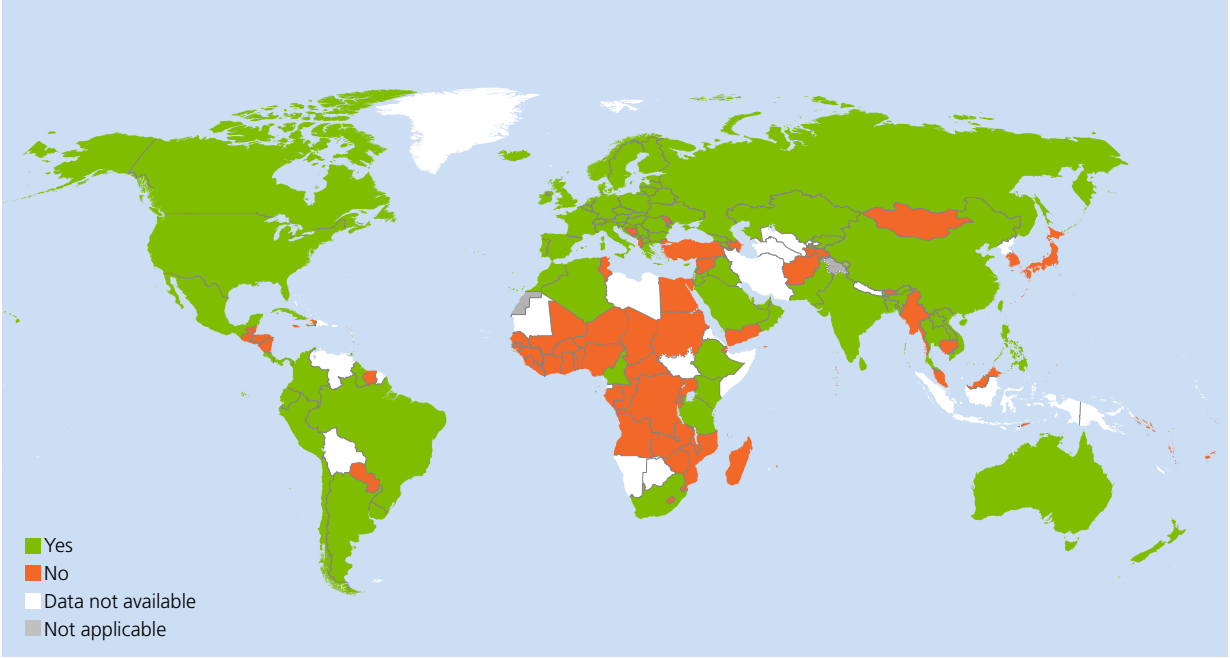
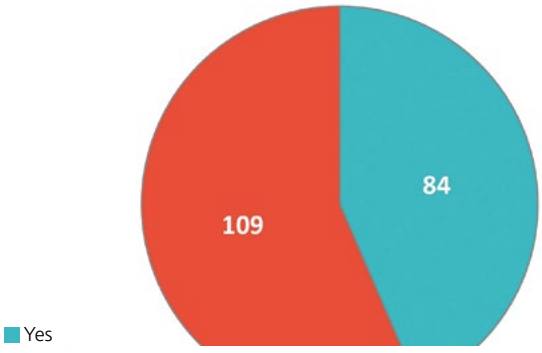


Figure 2: Countries with lead paint laws



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