In the process of developing a law to address lead paint, many stakeholders – including government representatives, industry, and civil society organizations – find that they have questions about specific aspects of this work. To address these questions, the Lead Paint Alliance has developed these Frequently Asked Questions (FAQs) to provide answers on a wide range of relevant topics. The questions are organized by category, to assist you in finding the questions and answers most relevant to you, including Lead Paint (LP), the Lead Paint Alliance (LPA), Health, Environmental and Economic Impacts of Lead Exposure (Impacts), Lead Limits in Paint (Limits), Non-Lead Alternatives (Alternatives), Costs of Paint Reformulation (Costs), Compliance Assurance (Compliance), Timing of Lead Paint Phase-Out (Phase-out), Paint Testing (Testing) and Disposal (Disposal).

To ensure that these questions are as helpful as possible, UNEP welcomes feedback on the FAQs by 3 July 2020 at lead-cadmiumchemicals@un.org
Lead Paint

1. What is lead paint? Why is there lead in paint?

In the context of action to eliminate lead paint, the term “paint” includes varnishes, lacquers, stains, enamels, glazes, primers and other coatings. Paint is typically a formulated mixture of resins, pigments, fillers, solvents and other additives. “Lead paint” is defined by the Alliance as a paint or a similar coating material to which one or more lead compounds have been added. Lead compounds are added to confer specific properties such as colour, corrosion-resistance or to catalyze and ensure even drying of the paint.

Lead compounds are primarily added to solvent-based paints, such as enamel (gloss) paints. The lead content of paint can range from less than 90 ppm (90 mg/kg) to over 2100 000 ppm (2100 000 mg/kg). In paints with no added lead there may be a small amount present as a contaminant of the raw materials used in manufacture, but when a manufacturer takes care to source uncontaminated raw materials the lead content is usually well below 90 ppm.

2. How significant is the lead paint problem? Is paint the major source of lead exposure?

Lead paint is an important current and future source of childhood lead exposure because it is still allowed in most countries and is in widespread use. Despite the well-known risks, more than 100 countries still lack binding legal limits on lead in paint, as stated in the Update on the Global Status of Legal Limits on Lead in Paint, September 2019 [https://wedocs.unep.org/bitstream/handle/20.500.11822/30110/2019_Global_Update.pdf?sequence=1&isAllowed=y] .

Since the phase-out of leaded petrol, this paint is one of the most widespread sources of exposure to lead for children. Intact lead paint poses little risk of lead exposure; however, as it ages the paint starts to decay, fragmenting into flakes and dust that contaminate the indoor and outdoor environment. This aging process can be very fast in some climates or if the underlying surface was not properly prepared. Paint flakes and contaminated dust are readily swallowed by young children who typically play on the ground and frequently put their hands to their mouths. Some children pick flakes of paint off surfaces and eat them. The removal of lead paint, for example during home renovation or maintenance of painted structures such as playground equipment, can also result in the release of lead-contaminated dust if it is not done in a safe manner.

Lead paint can remain a source of exposure for many years into the future. Even in countries that banned lead paint decades ago, there are still many homes where lead painted surfaces and children with elevated blood lead levels can be found. The earlier a country enacts a lead paint law to prevent new application, the better.

Lead Paint Alliance

3. What is the Global Alliance to Eliminate Lead Paint and What Does it Do?

The Global Alliance to Eliminate Lead Paint (or Lead Paint Alliance) is a voluntary collaborative initiative working with diverse stakeholders including from industry, government and non-profit organizations with the goal of preventing children’s exposure to paint containing lead and minimizing occupational exposure to lead paint. Its broad objective is to achieve the phase-out of the manufacture, import and sale of paints containing lead and to eventually eliminate the risks that such paints pose.
The United Nations Environment Programme (UNEP) and the World Health Organisation (WHO) act as co-secretariats and the United States Environmental Protection Agency (US EPA) chairs its Advisory Council. Currently 20 governments, 45 non-governmental organizations, 6 academic institutions and 23 industry organizations are partners of the Alliance (as of March 2020).

The key current focus as outlined in the 2019-2020 Action Plan is on phasing out lead in paint through encouraging the development of lead paint laws in all countries. To achieve the phase-out of lead paint the Alliance is encouraging countries to establish and enforce laws (e.g., legislation, regulations, ordinances or mandatory standards) that prohibit the import, manufacture, and sale of lead paint. To help countries develop lead paint laws, the Alliance has developed online tools including a Model Law and Guidance for Regulating Lead Paint and a Toolkit for Establishing Laws to Eliminate Lead Paint. Moreover, partners of the Alliance are available to provide technical and legal drafting assistance and advice as feasible.

4. What kind of assistance is available from the Lead Paint Alliance?

The Lead Paint Alliance is working to help governments develop lead paint laws. In 2020 and 2021 the Alliance is providing advice from key experts from international organizations (UNEP, WHO), legal organizations (the American Bar Association Rule of Law Initiative or ABA ROLI), environmental NGOs (the International Pollutants Elimination Network or IPEN), government technical experts (the US Environmental Protection Agency or US EPA), and the paint industry (the World Coatings Council).

In addition to helping countries with laws, the Lead Paint Alliance is also working to address barriers faced by small and medium enterprises (SMEs) in reformulating paints by replacing lead additives in paint with lead-free alternatives. As part of the lead in paint component of the Strategic Approach for International Chemicals Management (SAICM) project funded by the Global Environment Facility (GEF), the Alliance is working with SMEs in seven countries through National Cleaner Production Centers (NCPCs) in Jordan, Ecuador, Peru, Colombia and China and through IPEN and its partner non-governmental organizations (NGOs) in Indonesia and Nigeria. Activities were also conducted in Tunisia in 2018 by IPEN and its NGO partner together with Mediterranean Cleaner Production Center (SCP/RAC) through the EU funded SwitchMed programme, focusing on anti-corrosive paints.

The Alliance has developed several tools to help countries develop lead paint laws and SMEs to reformulate paint. Draft Technical Guidelines on Paint Reformulation developed by NCPC Serbia as part of the SAICM project are available online. Additional information on establishing legally binding control measures is provided in the Model Law and Guidance for Regulating Lead Paint (available in Arabic, Chinese, English, French, Russian and Spanish). The Lead Paint Alliance fact sheet, Suggested Steps for Establishing a Lead Paint Law, outlines steps which have been helpful in countries that have adopted laws.

5. What is the Model Law and Guidance for Regulating Lead Paint?
The purpose of the Model Law and Guidance for Regulating Lead Paint (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) (or Model Law) is to assist countries to enact new laws (or to modify their existing laws) to establish a single regulatory limit on the total lead content in paints. The guidance describes the key elements of effective and enforceable legal requirements. The Model Law provides sample legal text that incorporates the key provisions and reflects the best approaches currently found in lead paint laws around the world.

In the Model Law the term “law” is used as a general term that means a legal mechanism or set of provisions that establishes a binding, enforceable limit on lead in paint with penalties for non-compliance. For example, “law” can include legislation, regulations, ordinances or mandatory standards, depending on a country’s legal framework.

Key provisions in the Model Law include:

- Set a low, technically achievable limit on total lead in paint of 90 ppm
- Provide clear deadlines for compliance with the limit; consider phasing in deadlines more slowly for some paint uses that may result in less exposure
- Place primary responsibility for compliance with the lead limit on paint manufacturers and importers, by requiring them to obtain testing by an accredited, third-party laboratory and to issue declarations of conformity with the lead limit based on such testing
- Identify government agency with enforcement authority, enumerate enforcement responsibilities, including authorizing government inspections, testing, and seizure
- Specify prohibited acts:
  - Manufacture, sell, distribute, or import paint that exceeds the legal limit
  - Fail to cooperate with government inspection
  - Fail to provide declaration of conformity or provide a false declaration
  - Attempt to influence third-party party laboratory’s test results
- Provide penalties for noncompliance

6. What can governments do?

In countries where lead paint is still available, governments should introduce legally binding controls to either ban or severely restrict the use of lead paint. Examples of control measures include prohibiting the use of any lead compounds in paint or setting a maximum permissible limit for the lead content of paint at the lowest feasible level. Additional information on establishing legally binding control measures can be found in the Model Law and Guidance for Regulating Lead Paint (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) (available in Arabic, Chinese, English, French, Russian and Spanish).

The Alliance fact sheet, Suggested Steps for Establishing a Lead Paint Law (http://saicm.org/Portals/12/Documents/EPI/Lead%20Paint/SuggestedStepsEstablishingLeadPaint-Law.pdf), outlines steps which have been helpful in countries that have adopted laws.

7. Can countries depart from the Model Law?

The Model Law (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) is intended as guidance containing suggested best practices for regulating lead in paint. In recognition of the diversity of regulatory structures and legal systems in different countries, the suggested Model Law provisions are intended to be customized to each country’s legal framework and regulatory structure. Several Alliance partners are using the Model Law as a basis to assist countries in developing, establishing or refining lead paint laws.
Health, Environmental and Economic Impacts of Lead Exposure

8. What are the health impacts of lead exposure?

Lead has no biological function in the body. It accumulates in the body and affects practically all organ systems. Lead exposure can cause chronic and debilitating health impacts in all age groups, but it is particularly harmful to young children. This is because the developing nervous system is vulnerable to the toxic effects of lead, even at levels of exposure that do not cause obvious symptoms and signs. Lead exposure in early childhood can result in reduced intelligence quotient (IQ) and cognitive abilities, dyslexia, attention deficit disorder and increased antisocial behaviour. Lead exposure can also cause hypertension, renal impairment, immunotoxicity and toxicity to the reproductive organs.

Absorption of large amounts of lead can cause coma, convulsions and even death. Children who survive severe lead poisoning can be left with permanent neurological injury such as deafness and mental retardation.

Pregnant women are also vulnerable, and lead exposure is associated with reduced fetal growth, lower birth weight, preterm birth and spontaneous abortion. Exposure in adults is associated with increased risk of cardiovascular disease, including hypertension and coronary heart disease.

The Institute for Health Metrics and Evaluation (IHME) has estimated that in 2017 lead exposure accounted for 1.06 million deaths and 24.4 million years lost to disability and death (disability-adjusted life years (DALYs)) worldwide due to long-term effects on health. The highest burden is in low- and middle-income countries. IHME has also estimated that lead exposure accounted for 63.2% of the global burden of idiopathic developmental intellectual disability (i.e. intellectual disability not due to known causes such as genetic factors), 10.3% of the global burden of hypertensive heart disease, 5.6% of the global burden of ischaemic heart disease and 6.2% of the global burden of stroke. (IHME (2018). GBD Compare. [website] Seattle, WA: Institute for Health Metrics and Evaluation, University of Washington, 2018 ([http://vizhub.healthdata.org/gbd-compare](http://vizhub.healthdata.org/gbd-compare), accessed 3 March 2020).

9. What are the economic impacts of lead exposure?

There are both direct and indirect economic costs resulting from lead exposure. These include health care costs of treating lead poisoning, social costs such as the need for special education to combat lead-induced intellectual impairment, and productivity losses because of reduced intelligence quotient (IQ). The estimated economic costs attributable to IQ loss due to childhood exposure to lead (from all sources) amounted to $977 billion annual costs across lower and middle-income countries, amounting to 1.2% of global gross domestic product (GDP) in 2011. Expressed in terms of loss to regional GDP, the estimated cost in Africa was 4.03%, in Latin America and the Caribbean 2.04%, and in Asia 1.88% (Attina TM, Trasande L (2013). Economic Costs of Childhood Lead Exposure in Low- and Middle-Income Countries, Environmental Health Perspect, 121(9): 1097-1102 or see a map and summary of the results ([https://med.nyu.edu/departments-institutes/pediatrics/divisions/environmental-pediatrics/research/policy-initiatives/economic-costs-childhood-lead-exposure-low-middle-income-countries](https://med.nyu.edu/departments-institutes/pediatrics/divisions/environmental-pediatrics/research/policy-initiatives/economic-costs-childhood-lead-exposure-low-middle-income-countries)) at the New York University’s Langone Health Center web site).

10. What are the environmental impacts of lead exposure?

Lead can also have negative impacts on the environment because of its ecotoxicity ([UNEP, 2010](https://wedocs.unep.org/handle/20.500.11822/27635)). While
decaying or being removed, lead paint can enter aquatic and terrestrial ecosystems. Lead contamination is also known to affect a variety of bird species and to pose a threat to biodiversity (Haig et al., 2014). Aquatic ecosystems, including aquatic plants, invertebrates, and fish, have also been shown to take in lead when present in contaminated water. In fish, for example, lead can have haematological and neurotoxic effects and can disrupt enzyme function, thereby decreasing long-term survival and reproductive success (Demayo et al., 1982).

Lead Limits in Paint

11. Why set a lead limit of 90 ppm in paint? How was that number derived? Since no level of lead exposure is considered “safe” for humans, why not require paint to be lead-free?

Public health experts indicate that there are no safe levels of lead exposure and thus recommend a low achievable level. Paint manufacturers use natural substances such as clays, which can have low levels of naturally occurring lead, making completely lead-free paint infeasible. The 90 ppm limit in the Model Law reflects a low threshold that is technically feasible for paint manufacturers to achieve. Paints manufactured with non-lead additives have low levels of lead, well under 90 ppm. Countries can encourage the use of non-lead alternatives by prohibiting paint with high levels of lead. Nearly all of the countries that have enacted lead paint limits in recent years have used a 90 ppm limit, which has the general support of health experts as well as the paint and coatings industry.

12. What about industrial or non-consumer uses of lead paint? Do they pose health risks? Should they be phased out?

The Model Law provides suggested legal text that does not differentiate between different paint uses. Internationally, there is no widely agreed upon definition of “consumer use” or “industrial use,” and industrial paints containing lead have shown up on store shelves, providing consumers with access to these paints. There is little detailed research about whether paint is always used for its intended purpose, or whether there is potential for diversion to other uses, including decorative uses that are likely to expose children. A study in Cameroon showed that many automotive paints with high lead content were used for decorative purposes. Anecdotal reports of industrial lead paints applied to household, playground or toy surfaces are common and there have been some attempts to quantify the problem. Fine distinctions in different uses of paint may be difficult to enforce.

Moreover, industrial use paints, like consumer paints, degrade over time and lead-contaminated dust from paint can be inhaled or swallowed. All lead paint, whether for consumer use or industrial use, can result in worker exposure to lead. Exposure can occur at multiple stages in the lifecycle of the paint, including production, application, and removal (such as for renovation). Moreover, in some circumstances, workers may inadvertently bring that lead dust home, e.g. on their clothing, and expose their families.

Nevertheless, industrial uses may generally present lower risks than consumer uses of paint in homes and schools. Some countries are providing a longer time period for phaseout of industrial uses than consumer uses, particularly for paints that may take longer to reformulate in order to meet specific property specifications.
13. Why might it be harder for certain marine coatings to meet a 90 ppm limit?

Anti-fouling coatings are widely used to keep ship hulls free from fouling organisms, such as barnacles, algae or mollusks. This prevents excessive drag on the hull allowing ships to maintain efficiency and consume less fuel while underway. (See: International Maritime Organization (IMO), 2002, Anti-Fouling Agents [https://www.imo.org/en/OurWork/Environment/Anti-foulingSystems/Documents/FOULING2003.pdf]). The growth of such organisms also allows the spread of invasive species into sensitive marine ecosystems. (See: International Maritime organization (IMO) Biofueling [http://www.imo.org/en/OurWork/Environment/Biofueling/Pages/default.aspx])

Anti-fouling coatings use a number of soluble pigments, usually minerals and metals to control the properties of the coating. These raw materials are supplied to manufacturers and may contain traces of other substances, such as lead.

Lead should not intentionally be used in marine anti-fouling coatings. However, cuprous oxide (Cu₂O) is used as an active ingredient in the majority of anti-fouling coatings available on the market today. The production of cuprous oxide relies on the use of recycled copper that often contains lead (from solder) as a contaminant. The levels of lead in these sources currently makes it impracticable to have an effective marine coating at the 90 ppm lead limit.

Currently, the industry's best practice standard for a practicable lower limit is 600 ppm total lead as measured in the wet paint. Governments are urged to work with stakeholders to consider requiring this anti-fouling coatings limit, which forms the basis of the U.S. Navy's performance specifications for marine coatings that requires lead levels to be less than 0.06 weight percent total lead and/or its compounds. (See “Performance Specification: Paint System, Anticorrosive and Antifouling, Ship Hull”, U.S. Department of Defense, April 9, 2013 [http://everspec.com/MIL-PRF/MIL-PRF-010000-29999/MIL-PRF-24647E_46624/])

14. Can voluntary efforts eliminate lead paint?

While voluntary efforts by individual paint manufacturers have been seen in many countries, paint testing studies have shown that where there is no enforced, low, and mandatory legal limit on lead in paint, paint with high levels of lead is sold (see Map of Lead Levels in Paint around the World [https://ipen.org/projects/eliminating-lead-paint/map-of-lead-levels-in-paint-around-the-world]). The most effective way to prevent new lead exposure from paint is to establish and enforce binding lead paint laws. Recognizing the diversity in national legal systems, such laws may take the form of statutes, regulations, standards, or other legal instruments. Enforceable lead paint laws create a fair competitive market for all paint manufacturers, importers and exporters. Harmonization of lead paint laws across countries can reduce trade barriers.

15. What about toys bearing lead paint?

Lead paint on toy surfaces can pose significant health risks to children. This is also the case for lead paint on other children's products, such as cribs. A 90 ppm total lead limit on all paint would include paint used in domestic manufacture of children’s products. The Model Law [https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint] focuses on prohibiting the manufacture, import, sale and distribution of new paints exceeding the lead limit. Adding protective and achievable lead limits for children's products to a lead paint law could broaden the protection but would add time and complexity to the process of establishing and implementing a new limit on lead in paint. One option might be to establish a legal limit on lead in paint and in the same law also provide authority to set protective lead limits for other products through subsequent regulations or standards.
16. What should we do about paint that has already been applied in homes?

The Model Law (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) is prospective, providing suggested legal text and guidance for laws prohibiting the manufacture and import of new paints exceeding the lead limit. Such laws prevent future contamination and exposure by eliminating lead paint from the marketplace before it is applied to walls and surfaces. The Model Law does not address lead paint applied in the past, also known as “legacy paint,” as the mechanisms for addressing legacy paint are different and complex. The earlier a country enacts a lead paint law to prevent new manufacture and import of lead paint the less “legacy paint” will be present in the country.

Some governments have programs to address legacy paint. For example, information on addressing legacy lead paint in the United States is available at https://www.epa.gov/sites/production/files/documents/steps.pdf and https://www.epa.gov/sites/production/files/documents/sbcomplianceguide.pdf.

Non-lead alternatives

17. Are non-lead alternative ingredients available?

Non-leaded pigments, dryers, and anti-corrosives are widely available, and are used by many manufacturers to produce paints that meet the same specifications as the lead paint, making use of lead in paint unnecessary, particularly for decorative uses. As a result, major paint companies have switched to lead-free paint ingredients.

18. Is help available for small and medium enterprises (SMEs) to shift to non-lead alternatives?

In addition to helping countries with laws, the Lead Paint Alliance is also working to identify and help address obstacles faced by small and medium enterprises (SMEs) in replacing lead additives in paint with non-lead alternatives. These obstacles include lack of access to suppliers of lead-free additives and capacity to reformulate paint. The Alliance, through a project supported by the Global Environment Facility (GEF) and led by the National Clean Production Center of Serbia, is working with SMEs on pilot demonstrations for paint reformulation at their own cost in seven countries with National Cleaner Production Centers in Jordan, Ecuador, Peru, Colombia and China and through IPEN in Indonesia and Nigeria. UNEP has developed draft reformulation guidance for SMEs, which is expected to be finalized in 2020.

Costs of paint reformulation

19. Is there a cost to manufacturers for reformulating paint?

There is typically a one-time cost for the research and development to reformulate paint, which need not be passed on to the consumers. In addition, some of the non-lead additives are more expensive but the amounts needed may be smaller. The long-term economic benefits of protecting children from lead exposure far outweigh the costs of reformulation.
20. Will consumers pay more for paint that has no added lead?

The cost to consumers of paint without added lead need not be higher than paint with lead additives. Data from the Asian market show that lead content is not necessarily a predictor of the retail cost of paints. For more information, see the Lead Paint Alliance Regulatory Toolkit module on lead additive alternatives and costs. Also, while consumers consider price, they also look for safe products.

21. Will SMEs be able to reformulate paint?

Many SMEs have already successfully reformulated their paint to remove lead. Reformulating paint to reduce total lead content will contribute to preventing the enormous costs to society of lead exposure which far outweigh the costs to industry of reformulation. Limits can be phased in over time, allowing manufacturers time to reformulate their products. The Model Law was developed with consideration to the impact of testing requirements on manufacturers and provides for flexible approaches that reduce costs.

Compliance Assurance

22. Is a lead paint law overly burdensome to the paint industry?

The burden of compliance on industry is reasonable and not overly burdensome. Reformulating paint to reduce total lead content will contribute to preventing the enormous costs to society of lead exposure which far outweigh the costs to industry of reformulation. Limit levels can be phased in over time, allowing manufacturers time to reformulate their products. The Model Law was developed with consideration to the impact of testing requirements on manufacturers and provides for flexible approaches that reduce costs.
23. What are the compliance tools in the Model Law?

The [Model Law](https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) recommends the following tools to promote compliance: 1. Requiring manufacturers and importers to have paint tested for lead content by third-party accredited laboratories using internationally recognized test methods; 2. Requiring manufacturers and importers to provide a declaration of conformity based on such testing; 3. Identifying the government agency with enforcement authority, enumerate enforcement responsibilities, including authorizing government inspections, testing, and seizure, and 4. Making the following activities “prohibited acts” subject to penalties: manufacturing, selling, distributing or importing paint that exceeds the legal limit, failing to cooperate with government inspections, failing to provide declarations of conformity or providing false declarations, and attempting to influence a third-party laboratory’s test results.

24. What is a declaration of conformity and how does it work?

The [Model Law](https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) recommends the use of a declaration of conformity to demonstrate compliance with a lead paint regulation. The Model Law requires manufacturers and importers to provide a declaration of conformity that their paints comply with the total lead limit to distributors, retailers, and upon request, to governments. The Model Law promotes reliability by requiring that testing in support of a declaration of conformity be performed by a third-party accredited laboratory.

25. Does the declaration of conformity have to be notarized?

No, the declaration of Conformity does not need to be notarized; it needs to be signed by a representative of the issuing company with the authority to legally bind the company. To ensure that declarations of conformity are accurate, the prohibited acts section of lead paint legislation should include submitting a false declaration, as provided by the [Model Law](https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint).

26. How do enforcement officials deal with lead paint imports?

The regulatory agency must work with customs officials to ensure paint imports are accompanied by proper documentation. The [Model Law](https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) includes a provision for governments to inspect paint to ensure that it complies with the total lead limit. This will help ensure that companies do not rely on inaccurate documentation.

27. Enforcement is difficult in many countries. How do we ensure enforcement, including with respect to imports?

The [Model Law](https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) includes provisions for establishing a compliance assurance mechanism that is low-cost and efficient for industry to implement and for governments to enforce. Each paint manufacturer and importer would be responsible for Declarations of Conformity, backed by third-party testing at a laboratory certified in accordance with international standards. Governments would have authority to inspect facilities and test paint.
Timing of Lead Paint Phase-out

28. Can lead paint limits be phased in over time?

To be effective, lead paint laws must provide clear deadlines for compliance by manufacturers and importers to phase-out lead paint. These deadlines should allow reasonable time for manufacturers to alter paint formulations and production processes. For example, some countries allow 1 year from the effective date of legislation before compliance becomes mandatory for household paints, and a longer phase-in, such as 2-3 years, for industrial paints. A provision reflecting this approach is included as an option in the Model Law (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint).

29. Can retailers continue to sell lead paint after manufacture and import of paint above 90 ppm is illegal?

The Model Law (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) recommends not to allow sale of paint that exceeds 90 ppm once manufacture and import become illegal. Immediate enforcement against retail sales of existing stocks that were created or imported legally before the deadline might not be realistic in all contexts. Countries may wish to consider including an “existing stocks” provision in their lead paint laws, which could allow continued sales of paint produced before the deadline for stopping manufacture and import and could include an outer time limit. Some lead paint stocks may ultimately need to be disposed of, subject to applicable disposal requirements.

Paint Testing

30. What are the Model Law testing requirements for manufacturers and importers?

The Model Law (https://www.unenvironment.org/resources/publication/model-law-and-guidance-regulating-lead-paint) requires manufacturers and importers to submit sufficient samples of the first production batch or lot of paint to a third-party laboratory accredited under international standards for testing for compliance with the 90 ppm lead limit. This is the testing on which manufacturers and importers rely to issue their required declarations of conformity with the lead limit. The Model Law provides a list of internationally recognized testing methods, such as ISO and ASTM methods (see Appendix II of the Model Law). The Model Law recognizes that test methods may change or improve over time and, thus, the Appendix II list is not intended to be exhaustive.

31. What are some of the existing lead paint testing methods?

The WHO has developed, and will soon publish, a revised Brief guide to analytical methods for measuring lead in paints, which lists well-established analytical methods for measuring the lead content of paint and briefly describes these methods. It also highlights, for various types of applications and scenarios, the considerations when deciding whether to use a laboratory-based method or portable technology, and whether to establish a laboratory service for lead measurement or to buy in services from another laboratory. The booklet will be available in six UN languages (Arabic, Chinese, English, French, Russian and Spanish) in 2020.
32. How many different paints does a manufacturer have to submit for testing?

The Model Law requires manufacturers and importers to submit sufficient samples of a paint product’s first production batch or lot for third-party laboratory testing. Testing the first production batch or lot will be sufficient to meet the testing requirement unless a material change occurs in the production process for that paint product – such as a change in ingredients or a change in an ingredient supplier. The Model Law includes provisions that, in the event of a material change in the production process, would require laboratory testing to be conducted on paint produced through the new process and a declaration of conformity to be issued for that paint. In order to ensure that testing is not unduly burdensome and duplicative, importers may be allowed to rely on a foreign manufacturer’s test results to issue a declaration of conformity, as long as the importer exercises due care to ensure that the manufacturer’s test results meet the requirements of the law, and the importer maintains appropriate records of the test methodology and results.

33. How can a country make sure the testing requirements are not overly burdensome and expensive?

While the Model Law requires testing by an accredited third-party laboratory, it does not specify exactly how the required testing must be done. Without having to alter the text of the law itself, a government could choose to supplement its basic testing requirements with a regulation or guidance that may help lower the cost of testing. Two examples from US regulations are provided below: “component part testing” and “composite testing.”

34. What is component part testing?

“Component part testing” is an option for a company to obtain third-party testing for each ingredient used in finished paint products, rather than for each finished paint product (for example, each variant of color or shine). The following is an excerpt from the US Consumer Product Safety Commission (US CPSC) website:

“[C]omponent part testing is allowed for the base constituents of paints, which can be considered component parts. For example, assume 10 base color constituents, plus a binder, are mixed in varying quantities to create a variety of paint colors. If each base color constituent and the binder are individually tested and found compliant with the lead in paint limit, then any combination of base color constituents and binder would also be compliant, and the mixed paint does not also require additional testing.”

A company using component part testing would need to provide a declaration of conformity for each paint color and other base constituent rather than having to test the final paint product.

35. What is composite testing?

“Composite testing” (combining certain samples into one sample) entails combining different color paints from one or more samples to reduce the number of samples being tested. The paint company would still need to provide a declaration of conformity for each paint product using the results of the composite testing. When using this testing strategy, strict guidelines need to be followed to make sure that the lead concentration of each component is low enough that the composite testing provides a representative measure of lead content for each paint that is part of the composite sample. If the composite test exceeds the lead limit, then follow-up testing of each component paint would
36. How can we get accredited laboratories in our country?

Each country does not need to have its own laboratory to conduct accredited, third-party testing. The Model Law recommends that countries encourage laboratories to acquire the necessary equipment, expertise and accreditation to perform the required testing of lead paint. Current lack of in-country laboratory capacity need not be an impediment to implementation of a lead paint law, as manufacturers and importers can still comply with the law by sending paint samples for testing to accredited, third-party laboratories in other countries or relying on testing provided by the raw material suppliers.

37. Do government inspectors testing for compliance with the law have to use third-party laboratories?

No. The Model Law recommends authorizing government inspectors to inspect and test paint to assess compliance with the lead limit in “a reasonable manner.” Generally, the lead content in liquid paint can be measured in a laboratory using laboratory methods or in the field using portable devices. The usual method to sample the paint is to apply a thin layer of paint to a non-metal, homogenous surface, such as a glass slide or flat, smooth piece of wood and allow it to dry. Government inspectors can send samples to a laboratory, where the paint is scraped off, prepared and analyzed. Alternatively, government inspectors can analyze samples in the field using a portable x-ray fluorescence (XRF) analyzer (see ASTM F2853-10(2015)). HDXRF analyzers are also able to measure lead concentration in liquid samples of new paint using a manufacturer-supplied sample cup. Information on these techniques is provided in the WHO publication Brief guide to analytical methods for measuring lead in paints, 2nd edition, which will be published shortly.

In addition, many manufacturers operate in-house laboratories that can perform follow-up testing following internationally recognized test methods. Such testing may be useful in providing additional assurance of conformity.

Disposal

38. How is lead paint disposed of?

The Model Law does not address this question directly, but includes a provision to require that manufacturers and importers comply with applicable provisions of a country’s waste disposal laws. Under the law in some countries, lead paint may qualify as hazardous waste once it can no longer be used legally. In order to protect health and the environment, it is important that countries ensure that their legal frameworks provide for management and disposal in an environmentally sound manner.

In Chemicals & waste
Did you know?
80 per cent of agricultural land is used for livestock feed.