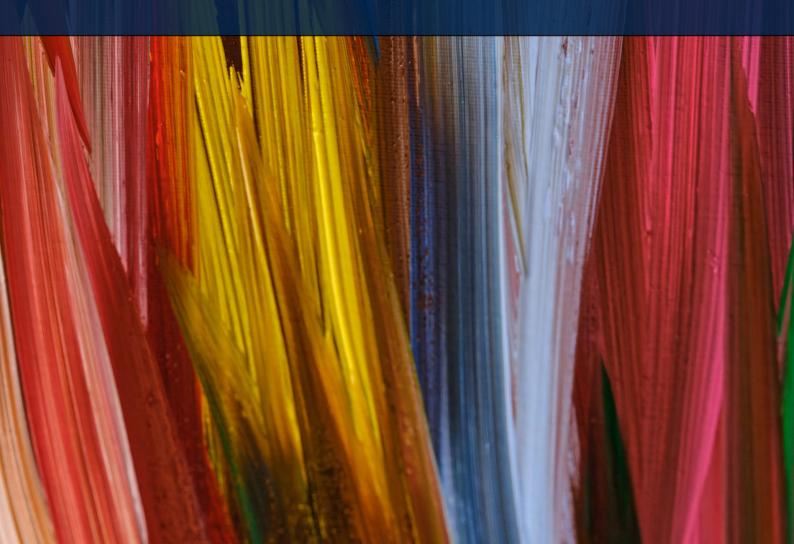


# Lead Paint Law Compliance and Enforcement Guidance





# Lead Paint Law Compliance and Enforcement Guidance

© 2023 United Nations Environment Programme

ISBN No:978-92-807-4018-9 Job No: DTI/2516/PA

This publication may be reproduced in whole or in part and in any form for educational or non-profit services without special permission from the copyright holder, provided acknowledgement of the source is made. The United Nations Environment Programme would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or any other commercial purpose whatsoever without prior permission in writing from the United Nations Environment Programme. Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to the Director, Communication Division, United Nations Environment Programme, unep-communication-director@un.org.

#### Disclaimers

The designations employed and the presentation of material 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.

Mention of a commercial company or product in this document does not imply endorsement by the United Nations Environment Programme or the authors. The use of information from this document for publicity or advertising is not permitted. Trademark names and symbols are used in an editorial fashion with no intention on infringement of trademark or copyright laws.

The views expressed in this publication are those of the authors and do not necessarily reflect the views of the United Nations Environment Programme. We regret any errors or omissions that may have been unwittingly made.

© Maps, photos and illustrations as specified

Suggested citation: United Nations Environment Programme (2023). Lead Paint Law Compliance and Enforcement Guidance. Geneva.

#### Email: Lead-cadmiumchemicals@un.org

This document was prepared under the Global Environment Facility (GEF) full sized project 9771: Global best practices on emerging chemical policy issues of concern under the Strategic Approach to International Chemicals Management (SAICM). This project is funded by the GEF, implemented by UNEP and executed by the SAICM Secretariat.

# ACKNOWLEDGEMENTS

The present document is a publication of the United Nations Environment Programme (UNEP) developed in partnership with the World Health Organization (WHO) and the United States of America Environmental Protection Agency (US EPA). The document was developed by a working group consisting of Angela Bandemehr, Negin Mostaghim and Steve Wolfson of EPA, Mihaela Claudia Paun and Nicoline Lavanchy of UNEP, Elena Jardan and Lesley Onyon of WHO, Heidi McAuliffe of the World Coatings Council, Branko Dunjic of the National Cleaner Production Centre of Serbia, Sara Brosche of the International Pollutant Elimination Network and Amanda Rawls from the American Bar Association Rule of Law Initiative.

# GLOSSARY

ASTM	American Society for Testing and Materials International
CEPHED	Center for Public Health and Environmental Development
LEEP	Lead Exposure Elimination Project
INECE	International Network for Environmental Compliance and Enforcement
IPEN	International Pollutants Elimination Network
ISO	International Organization for Standardization
OECD	Organization for Economic Cooperation and Development
Pb	Lead
ppm	Parts Per Million
SDS	Safety Data Sheets
XRF	X-ray fluorescence
UNEP	United Nations Environment Programme
wно	World Health Organization

# TABLE OF CONTENTS

A	CKNOWLEDGEMENTS	iii
GI	LOSSARY	iv
ЕΣ	KECUTIVE SUMMARY	vii
1.	INTRODUCTION	1
	A. Method of development	2
	B. Purpose and scope	2
2.	DRAFTING OF CLEAR, ENFORCEABLE LEAD PAINT LAWS	4
	A. Clear enforceable language	4
	B. Input from stakeholders	4
	C. Well-defined compliance and enforcement authorities	5
	D. Relationship to other laws	5
3.	COMPLIANCE PROMOTION	6
4.	COMPLIANCE MONITORING	7
	A. How manufacturers and importers can document compliance	7
	B. Inspections to verify compliance	9
5.	ENFORCEMENT	14
	A. Basic principles of enforcement	
	B. Choice of enforcement response	
	C. Factors influencing the choice of enforcement response	16
	D. Penalty considerations	16
	E. Other types of remedies	
	F. Citizen suits	17
6.	PERIODIC EVALUATION	
7.	CONCLUSION	
RI	EFERENCES	20
A	NNEXES	23
	Annex A. Sample certification form	23
	Annex B. Sample checklist for lead paint law inspections	
	Annex C. Inspection report template	27

# List of Figures

Figure 1.	Types of government compliance and enforcement actions for a lead paint law	.3
Figure 2.	Steps to sample paints and test for lead	.7
Figure 3.	How manufacturers or importers can document compliance before the sale or import of paint	.9
Figure 4.	Action by paint manufacturers/importers when their facilities are inspected	11
Figure 5.	What should paint manufacturers/importers do after the inspection?	13

# EXECUTIVE SUMMARY

The Lead Paint Law Compliance and Enforcement Guidance (hereinafter referred to as the Guidance) outlines actions governments can take in fostering compliance, as well as actions companies can take to document compliance, in order to support governments establishing and implementing lead paint laws. Since governments may vary in the steps they take to foster compliance with their lead paint laws, the Guidance is intended to be adaptable by governments to their own legal systems and regulatory structures.

Paint containing lead poses very significant risks to both human health and the environment. Globally, lead paint is an important source of exposure of children to lead. Lead paint laws are a key tool in protecting human health and the environment from lead. Compliance and enforcement are critical to the effective implementation of laws limiting lead in paint.

Actions to foster compliance with lead paint laws can include the following:

# a. Drafting of clear, enforceable lead paint laws

Ensuring compliance with a lead paint law starts with drafting the law using clear, enforceable language that makes clear who is regulated, what type (or types)<sup>1</sup> of paint is (or are) regulated, what the lead limit is, when the requirements become mandatory, and how to document compliance.

The Model Law and Guidance for Regulating Lead Paint (United Nations Environment Programme [UNEP] 2018 – hereinafter referred to as the Model Law or referenced as UNEP 2018) – includes sample legal text for provisions to provide a solid legal foundation for effective implementation and enforcement of lead paint laws. For example, appendix I of the Model Law includes sample legal text for provisions on testing paint for compliance with a legal limit on lead in paint, documenting compliance, government verification of compliance and enforcement action to sanction violations. Many countries have considered the Model Law in developing their lead paint laws.

Providing opportunities for input from paint manufacturers and consumers and other stakeholders can play an important role in developing effective legislation.

## b. Compliance promotion

Governments can share information to foster compliance with a lead paint law, which is also known as "compliance promotion". Compliance promotion actions can include communicating the requirements of a lead paint law and providing information on reformulating paint and paint testing to the regulated community. Such activities can begin ahead of the date on which the requirements become mandatory, to give the regulated community time to adjust to new requirements.

### c. Compliance monitoring

Compliance monitoring includes verification of compliance and detection of violations and is essential for the effective implementation of lead paint laws. Laws can require companies to demonstrate their compliance with the lead limit for the paints they produce or import. This approach relies on the paint manufacturers and importers having samples of each paint which are subject to the lead paint laws tested at a third-party accredited laboratory.

Enforcement approaches that rely on self-monitoring often include documentation requirements. In this case, a lead paint law may require that paint manufacturers and importers document that their paints meet or are below the legal limit on lead in paint before the import or sale of their paints (once the requirements become mandatory).

<sup>1</sup> Such as household, decorative, architectural, industrial paints, etc. While there are not internationally agreed definitions of these terms, some countries' lead paint laws provide different timeframes for compliance with lead paint limits for these different types of paint.

Requiring manufacturers and importers to certify testing of their paints places the responsibility for demonstrating compliance on the companies that bring paints to market. This certification<sup>2</sup>, signed by a responsible company official, is presented to the government upon request or made widely available, such as by posting on the internet. Making such a certification widely available informs consumers and enables retailers to ensure that the paints they sell comply with the law. A sample form for such a certification is provided in annex A to the present Guidance.

Governments can inspect facilities for the manufacture, import, and distribution of paints. Such inspections play a crucial role in fostering compliance. The purpose of an inspection is to verify and motivate compliance by detecting violations and gathering evidence to support potential compliance actions. A sample inspection checklist outlining inspection procedures is provided in annex B and a sample inspection report is provided in annex C.

## d. Enforcement

Finally, enforcement actions foster compliance and a level playing field by providing a credible threat of sanctions for violations. A high likelihood of government detection of violations and the imposition of sanctions can provide a strong incentive for compliance. This concept of deterrence is central to the effective implementation of lead paint laws.

Enforcement actions should be proportionate to the seriousness of the violation and the risks posed to human health and the environment. Factors that can influence the appropriate enforcement response and resulting sanctions include the extent of deviation from the requirements, the degree of harm or risk, and other factors. Penalty determinations are guided by the goal of ensuring that violators do not financially benefit from non-compliance. Other remedies for violations of a lead paint law may include the seizure or recall of paints exceeding the limit on lead content in paint.

<sup>2</sup> This Guidance uses the term "certification" when discussing compliance documentation.

# 1. INTRODUCTION

Effective compliance and enforcement strategies strengthen the credibility of environmental requirements and help promote fairness by removing potential financial advantages for companies that do not comply. Compliance and enforcement are critical to the effectiveness of lead paint laws and should be considered from the drafting stage through to the implementation of the law. Effective compliance and enforcement lead to greater protection from the harmful effects of lead on human health and the environment. The present Guidance outlines actions by governments to advance lead paint law<sup>3</sup> compliance and enforcement. For definitions of compliance and enforcement see box 1 and 2 below.

#### Box 1

**Compliance** is conformity with legal requirements. To achieve compliance, common practices of governments include compliance promotion (outreach to the regulated community to educate them on the law), compliance monitoring (review of compliance documentation, government inspections and testing of paint) and enforcement (efforts to compel compliance through civil or criminal proceedings and penalties) (International Network for Environmental Compliance and Enforcement [INECE] 2009; UNEP 2006).

#### Box 2

**Enforcement** is a component of compliance and refers to actions taken by the government against violators to deter violations and compel compliance with the law. Enforcement provisions can provide for penalties to deter violations and can also provide for injunctive relief to require the violator to come into compliance with the law (INECE 2009).

This Guidance uses the term "agency" to refer to the government entity responsible for implementing the lead paint law.

Paint containing lead poses risks to health and the environment and lead paint is an important source of childhood lead exposure. As lead paint ages and the paint starts to decay, it fragments into flakes and dust that can contaminate the indoor and outdoor environment (World Health Organization [WHO] 2020a). Paint flakes and contaminated dust are readily swallowed or inhaled by young children (UNEP 2020a, question 2). Lead can have permanent health effects on children and cause harm in adults.

An increasing number of countries are adopting lead paint laws (UNEP 2021a; WHO 2021). For a country example of the importance of lead paint laws in reducing lead concentration in paint, see box 3 below. Paint testing studies have shown that decorative paints can contain high levels of lead (International Pollutants Elimination Network [IPEN] 2021a. Eliminating lead paint prevents the socioeconomic costs associated with the health impacts of lead exposure and the costs of abating the risk of lead paint after it has been applied to surfaces (WHO 2020a). An emerging best practice for new and revised lead paint laws globally is to establish a legal limit on lead content in paint, such as 90 parts per million (ppm). This limit is protective and generally achievable when paint manufacturers stop the intentional use of lead ingredients. However, due to potential lead contamination of some ingredients used in certain specialty products, such as marine coatings, a 90 ppm limit may not always be achievable for certain types of paint, and a different limit may need to be developed, taking into account input from relevant stakeholders (UNEP 2020a, question 14).

#### Box 3. Importance of enacting legal limits on lead in paint

Nepal enacted a mandatory 90 ppm limit on lead content in paint which took effect in 2015.

Testing of paints on the market from 2009 to 2021 showed a reduction in lead in solvent-based paints tested since the limit came into effect, indicating the importance of lead paint laws to eliminate lead paint. Prior to when the limit was in effect, on average 77 per cent of paints tested exceeded a lead content of 90 ppm; in 2021, after the standard had been in effect for a few years, 48 per cent of paints tested exceeded the 90 ppm limit.

These results suggest that testing of paints on the market can indicate the extent of non-compliance and can inform more effective implementation of lead paint laws (Center for Public Health and Environmental Development [CEPHED] 2021; UNEP 2022b; Nepal, Ministry of Science, Technology and the Environment 2014).

<sup>3</sup> The Guidance uses "lead paint law" in the broadest sense to include any mandatory legal requirement with consequences for noncompliance. It can be a statute, a regulation or a standard, as long as it includes an enforcement mechanism (UNEP 2022a, module E-1).

# A. Method of development

The present Guidance was developed by UNEP in collaboration with a working group comprised of government, industry and civil society partners of the Lead Paint Alliance (UNEP 2022c). A draft of the Guidance was also provided online for public comment. The Lead Paint Alliance promotes the development of laws to limit lead content in paint in order to reduce exposure to lead.<sup>4</sup> To advance this Lead Paint Alliance goal, UNEP worked with Alliance partners to develop the Model Law and Guidance for Regulating Lead Paint.

The Guidance draws on the Model Law and discussions of the Lead Paint Alliance with governments and other stakeholders on compliance and enforcement issues.<sup>5</sup> The Guidance also draws on the Principles of Environmental Compliance and Enforcement Handbook (INECE<sup>6</sup> 2009).

### B. Purpose and scope

The purpose of the present Guidance is to provide countries with guidance for the development and implementation of compliance and enforcement strategies for lead paint laws. The Guidance describes key elements of compliance and enforcement strategies for government officials and provides examples, including from countries that have enacted lead paint laws. The Guidance also provides examples of action paint manufacturers and importers can take to demonstrate compliance (see section 4).

For information on how different governments, the paint industry and civil society can use the Guidance, see box 4 below.

#### Box 4. How interested stakeholders can use the Guidance

**Government officials** can use the Guidance to inform the drafting of effective compliance and enforcement provisions and to promote, monitor and enforce compliance with lead paint law requirements. See also sections 2–6 and figures 1 and 2.

**Paint manufacturers and importers**, and others covered by a lead paint law, can use this document to understand how to document compliance and to understand what may be expected during an inspection. See also section 4 and figures 2–5.

**Civil society organizations** can use the Guidance to understand best practices for engaging on the drafting and implementation of provisions for lead paint law enforcement and compliance.

In all cases, specific compliance and enforcement activities will be determined by the laws in specific countries.

The Guidance is intended to be adaptable by countries to their own legal systems and regulatory structures. Each country may consider the application of compliance and enforcement practices most useful and relevant to its circumstances (see figure 1 for examples of compliance action).

The Guidance is structured as follows:

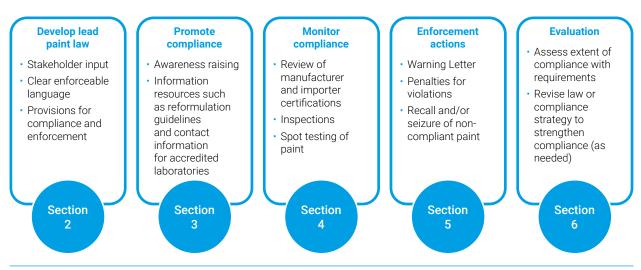
- Executive summary
- Section 1. Introduction
- · Section 2. Drafting of clear, enforceable lead paint laws
- Section 3. Compliance promotion
- Section 4. Compliance monitoring
- Section 5. Enforcement

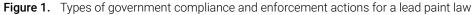
<sup>4</sup> In 2009, the second International Conference on Chemicals Management, under the Strategic Approach to International Chemicals Management policy framework, nominated lead in paint as an emerging policy issue. The Lead Paint Alliance was subsequently established as a voluntary collaborative 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 (UNEP 2022c). UNEP and WHO act as co-secretariat and EPA chairs its Advisory Council.

<sup>5</sup> An example of such a discussion is the UNEP Lead in Paint Community of Practice discussion on compliance and enforcement in a lead paint law, held in November 2020. See https://saicmknowledge.org/event/online-discussion-compliance-and-enforcement-mechanisms-leadpaint-law

<sup>6</sup> INECE is a partnership of government and non-government enforcement and compliance practitioners from more than 150 countries. The goals of INECE are to raise awareness of compliance and enforcement, to develop networks for enforcement cooperation, and to strengthen capacity to implement and enforce environmental requirements (INECE 2022).

- Section 6. Periodic evaluation
- Section 7. Conclusion
- References
- Annex A. Sample certification form
- Annex B. Sample inspection checklist
- Annex C. Inspection report template





# 2. DRAFTING OF CLEAR, ENFORCEABLE LEAD PAINT LAWS

This section of the Guidance provides information about drafting a clear, enforceable lead paint law, with well-defined authorities, to regulate lead paint, taking into account relationships to other laws while providing opportunities for stakeholder input.

### A. Clear enforceable language

Drafting a law using clear, enforceable language helps promote compliance and enforcement.

To be effectively enforced, a law should be clear about who is regulated, what type of paint is regulated, what the lead limit is, what, if any, are the explicit exemptions, when the requirements become mandatory, and how to document compliance.

The Model Law, which many countries have considered in developing lead paint laws, includes sample legal text for provisions to help ensure a strong legal foundation for effective implementation and enforcement of lead paint laws. For example, the Model Law includes sample legal text for provisions on how companies can document compliance with a legal limit on lead in paint and for government authorities to conduct inspections to ensure the completeness and accuracy of the documentation.

The Model Law includes sample legal text to:

- Define key terms
- Prohibit the manufacture and sale of paint that exceeds 90 ppm total lead concentration<sup>7</sup>
- Specify when the requirements become mandatory, with the option of developing different phased compliance dates for different types of paint (see box 5 below for a country example)
- Require written declarations, based on third-party testing, documenting that each paint manufactured or imported meets the 90 ppm limit
- Specify or reference sanctions for violations.

#### Box 5. Phased compliance dates

The lead paint law of the **Philippines** provides for the phase-out of all paints and other similar surface coatings with lead content above 90 ppm. The law establishes different schedules for phase-out of different types of paints to allow manufacturers time to reformulate their paints. The law provides for a three-year phase-out period (2013–2016) for phasing lead out of architectural, decorative and household paints, and a six-year phase-out period (2013–2019) for phasing out industrial paints (including automobile paints, industrial and commercial building and equipment maintenance coatings, refinish coatings for industrial equipment, catalyzed coatings for use on radio-controlled model powered airplanes, and touch-up coatings for appliances and lawn and garden equipment). (Philippines, Department of Environment and Natural Resources 2013; UNEP 2022a, module F-4).

### B. Input from stakeholders

Governments should provide opportunities for input from companies affected by the law, such as paint manufacturers and importers, while a law is being designed and drafted (UNEP 2020b; UNEP 2020c). Compliance and enforcement officials, trade associations, paint consumers, and other relevant stakeholders may also provide useful input. This information can help improve the effectiveness and feasibility of provisions considered for a lead paint law. Consultation with paint manufacturers, retailers and other stakeholders can also increase their understanding of the law's requirements and purpose, which can promote compliance when the law goes into effect. Input from compliance and enforcement officials can inform drafting of the compliance and enforcement provisions, which can help ensure that they are enforceable and effective.

<sup>7</sup> Note that some specialty coatings, such as marine coatings, may require a higher limit than 90 ppm at present. See UNEP 2020a, question 14.

# C. Well-defined compliance and enforcement authorities

Governments can promote effective enforcement of lead paint laws by using language in the law that provides clear legal authority for compliance and enforcement. The law should clearly define the scope of agency responsibilities, lines of authority and mechanisms for coordination. For example, it can be important to foster effective coordination with officials who regulate imports at points of entry. It can also be important to foster effective coordination on the handling of lead paint that remains in the channels of commerce after it is prohibited and of paints that may be treated as waste.

## D. Relationship to other laws

In drafting lead paint laws, it can be important to take into account other laws that contain potentially relevant provisions. These other laws can be referenced in the lead paint laws. For example, the lead paint standard of Viet Nam references content labelling provisions in a Viet Nam decree on goods labelling (Viet Nam, Ministry of Industry and Trade 2020; Enviliance Asia 2020). The lead paint law of Colombia references provisions in its waste law for the management of lead-containing waste (Colombia, Congress of the Republic of Colombia 2020).

# **3**. COMPLIANCE PROMOTION

Communication of the purpose and key requirements of a lead paint law to the regulated community<sup>8</sup> can help increase understanding and encourage compliance. Such activities can begin ahead of the date on which the requirements become mandatory, to give the regulated community time to adjust to new requirements. Understanding the paint market can inform education and compliance promotion activities.<sup>9</sup>

Governments may disseminate information about lead paint laws through publications (e.g., gazettes), websites, "frequently asked questions" documents and direct contact with the regulated community. In some countries, trade associations or non-governmental organizations may provide information as well, such as through trade publications, workshops and their websites.

Compliance promotion materials may include fact sheets or "frequently asked questions" with information on:

- Where to find alternative non-lead paint ingredients (see UNEP 2022d)
- Applicable standards for sampling and testing and where to find laboratories accredited to perform the tests required in the law (see UNEP 2021b)
- · Who is subject to the law and required content of documents certifying compliance
- The date on which lead paint in excess of the limit can no longer be legally manufactured or imported
- The date on which lead paint already in the channels of commerce can no longer be legally sold
- · Requirements to maintain compliance records.

For additional examples of compliance promotion materials, see box 6 below.

#### Box 6. Compliance promotion materials

Governments may provide information to promote compliance by companies. Inspectors may wish to provide this material to facilities during inspections (see also the sample inspection checklist in annex B).

#### **Country-specific information**

- Lead paint law requirements
- Forms for documenting compliance (see annex A).

#### **General information**

- Lead paint laboratories (see UNEP 2021b)
- Reformulation best practices (see UNEP 2022d)
- Suppliers of non-lead paint ingredients (see UNEP 2022d)
- Analytical methods (see WHO 2020b).

Dissemination of certain compliance promotion material, such as guidelines for reformulating lead paint, may begin during the development of a lead paint law. In addition, in countries where most paint manufacturers are small and medium-sized enterprises, the government may choose to focus more heavily on compliance promotion rather than enforcement in the early stages of implementing a law.

Investing in robust compliance promotion measures fosters understanding and knowledge of the requirements of the law. This can potentially reduce enforcement violations and allow a more focused use of enforcement resources on priority violations.

<sup>8</sup> The Guidance uses the term "regulated community" to refer to any person or entity to whom lead paint law requirements apply. If a lead paint law prohibits the manufacture, import, distribution and sale of lead paint, then paint manufacturers, importers, distributors and sellers constitute the "regulated community" in the context of that law (see Organization for Economic Cooperation and Development [OECD] 2003).

<sup>9</sup> The specific entities that are part of a regulated community will depend on the requirements of the lead paint law in a particular country.

# 4. COMPLIANCE MONITORING

Government detection and action to address violations is essential to effective implementation of lead paint laws.

The Model Law includes sample legal text to require companies to self-monitor their compliance with the lead limit for each paint they produce or import, and to maintain records to document compliance. This approach relies on manufacturers and importers to have samples of each paint subject to the law tested at a third-party accredited laboratory. (see annex 9 for a sample certification form).

Requiring manufacturers and importers to certify testing of their paints places the responsibility for demonstrating compliance on the companies that bring paints to market. Governments may conduct inspections to verify the completeness and accuracy of the documentation provided by companies.

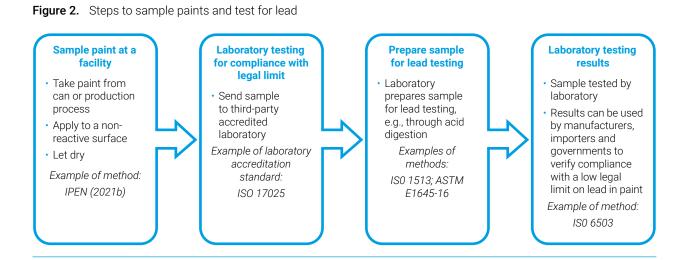
Some countries may consider allowing certification of compliance based on safety data sheets (SDS) establishing that paint ingredients do not contain added lead, as an alternative to requiring that each paint be tested to determine if a paint meets a regulatory limit. This approach can reduce paint testing costs. However, relying on SDS would provide less confidence that a paint meets the regulatory lead limit, as it would miss any compounds not reported in the SDS. Reviewing SDS would likely find lead due to the intentional addition of lead compounds but would miss lead if lead were present as a result of the contamination of an ingredient, or if SDS are incomplete or unavailable.

# A. How manufacturers and importers can document compliance

#### 1. Paint testing requirements

A lead paint law may require that paint manufacturers and importers demonstrate their paints meet or are below the legal limit on lead in paint before the import or sale of their paints. A lead paint law also may have requirements that manufacturers and importers submit samples of paint or similar coating materials to a third-party laboratory accredited under international standards for testing for compliance with the legal limit on lead in paint (see, for example, UNEP 2018, appendix I, section D).

The UNEP Lead in paint laboratory database lists laboratories in each United Nations region capable of quantifying lead in paint (UNEP 2021b). See figure 2 for an illustration of steps to sample paint and test for lead.<sup>10</sup>



<sup>10</sup> For additional information on standards and methods, see IPEN (2021b, 18-20); UNEP (2018); and WHO (2020b).

A lead paint law may require new third-party laboratory testing to be conducted and a new declaration issued before a paint, whose production process has undergone a material change,<sup>11</sup> can be marketed. For example, a change in ingredients or a change in an ingredient supplier which could affect the ability to meet the lead limit would constitute a material change. If a material change in the production process for a paint occurs, the earlier declaration of conformity is no longer applicable. The SDS review approach outlined in the section above might provide an alternative means for demonstrating that a new ingredient does not contain added lead.

To ensure that testing is not unduly burdensome, a lead paint law may allow importers to rely on a foreign manufacturer's test results as a basis for their declaration of conformity. In this situation the importer must exercise due care to ensure that the manufacturer's test results meet the requirements of the law and maintain appropriate records of the test methodology and results (UNEP 2018, appendix I, section D).

#### 2. Methods for preparing paint samples and testing for lead

Specifying the methods for laboratory sample preparation and laboratory analytical testing can help ensure that companies provide reliable test results and promote compliance. The Model Law provides sample language for a lead paint law requiring manufacturers and importers to base declarations of conformity on tests using recognized sample preparation and testing methods. Alternatively, such language could be included in implementation guidance for the lead paint law. Internationally recognized methods are referenced in the Model Law (UNEP 2018, appendix I, section D and appendix II) and the WHO Brief guide to analytical methods for measuring lead in paint (WHO 2020b).

Laboratory methods can generally detect low amounts of lead and thus can verify compliance with a low lead limit such as 90 ppm. Importers and manufacturers should check with the laboratory in advance to ensure that this is the case.

To test lead content from a paint can or paint from a manufacturing process, the paint must be thoroughly mixed through stirring, applied with a paint brush to a non-reactive surface and dried.<sup>12</sup> The paint sample can then be sent to a laboratory for analysis, where it is further prepared for testing.

#### 3. Documentation of compliance by manufacturers and importers

As explained above, a lead paint law can require paint manufacturers and importers to document that their paints meet the lead limit based on testing. Lead paint laws in different countries may refer to this document by different names, such as registration,<sup>13</sup> certification, attestation, or declaration of conformity. See box 7 for a country example of an attestation of compliance.

The Guidance uses the term "certification" when discussing this compliance documentation.

As is suggested in the Model law, this certification must be signed by a responsible company official and presented to the government upon request or made widely available, such as by posting on the internet. Making such a certification widely available enables retailers to ensure that the paints they sell comply with the law. A sample form for such a certification is provided in the Guidance in annex A. See also figure 3 for possible action by the manufacturer to document compliance based on the requirements of the sample legal text provided in the Model Law.<sup>14</sup> Actions to document compliance may vary with different countries' provisions.<sup>15</sup>

<sup>11</sup> A "material change" is a change to the design, manufacturing process or the source of component parts for the paint or similar coating material which a manufacturer or importer, exercising due care, knows, or should know, could affect compliance with a legal limit on lead content in paint (UNEP 2018, appendix I, section D).

<sup>12</sup> For a more detailed description of this sampling method, see IPEN 2021b, 18–20.

<sup>13</sup> Some lead paint laws that adopt a "registration" approach may require an additional step of government review of the relevant documentation and registration of the paint prior to sale. Under this approach the government must quickly review documentation and register eligible paints if it wishes to avoid market disruption once the lead paint limit becomes mandatory.

<sup>14</sup> This is a scenario based on the sample legal text provided in the UNEP Model Law. Provisions in different countries' laws may vary.

<sup>15</sup> For example, the European Union has adopted an approach under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation on lead compounds in paints that prohibits the addition of certain specific lead compounds to paints intended for the general public. European Union member States are each responsible for compliance and enforcement within their jurisdiction, which may vary from one member State to another.

#### Box 7. Attestation of compliance

The lead paint law in **Uruguay** requires paint manufacturers and importers to submit a registration form attesting to laboratory analysis showing compliance with the legal limit on lead content in paint to a national register for manufacturers and importers of paints, varnishes, graphic inks and masterbatches. The form must be filled out online through the Uruguay Foreign Trade Single Window (Ventanilla Unica de Comercio Exterior). Once the form is validated online by the appropriate government officials, manufacturers and importers must provide a hard copy of the signed and validated form to the entry desk of the National Directorate for Quality and Environmental Assessment (Dirección Nacional de Calidad y Evaluación Ambiental) (Uruguay 2011; Uruguay 2014).

Figure 3. How manufacturers or importers can document compliance before the sale or import of paint

#### **Testing paint**

- Paint manufacturers take samples of paints which are subject to the limit established in a lead paint law and send samples to a third-party accredited laboratory for testing.
- Importers may have their paints tested by a third-party accredited laboratory or rely on tests conducted by foreign manufacturers.

#### Certifying that paint meets the limit

- Based on the test results received from the laboratory, a responsible paint manufacturing or import company official signs a certification that their paints meet the legal limit on lead in paint.
- Test results are retained to support the certification of compliance with the legal limit.

#### Making certification aviiable to the government and customers

- Paint manufacturers and importers may make the certification of compliance widely available, such as by posting on the internet, which enables retailers to ensure that they sell only paints that comply with the law.
- Certification is presented to the government upon request.

### B. Inspections to verify compliance

Inspections demonstrate the commitment of the government to compliance in order to achieve effective implementation of the lead paint law. The purpose of an inspection is to verify and motivate compliance by detecting violations and gathering evidence to inform potential compliance actions. A sample inspection checklist outlining inspection procedures is provided in annex B.

#### 1. Legal authority for inspections

A lead paint law should contain or reference provisions providing clear legal authority to the responsible agency to inspect a factory, warehouse, or establishment in which paint or similar coating materials are manufactured or held. The Standards Law in Israel, for example, provides the Ministry of the Economy with the authority to conduct audits and enter any facility to take samples, in order to ensure that products meet requirements of an official standard, including the lead paint standard (Israel, The Standards Institution of Israel 2019). Such a provision authorizes an inspector, upon presenting the appropriate credentials, to enter at reasonable times to make observations, check certification records, take samples for subsequent testing and interview company personnel for the purpose of determining compliance. Providing clear authority for such activities in the law can create greater certainty and reduce litigation risk.

### 2. Types of inspections

To promote compliance, inspectors can check to ensure that importers and manufacturers have documented certification of compliance of each of their paints covered by the lead paint law. Such inspections can be conducted remotely by reviewing the documentation or in person at a paint manufacturing or importing facility. Inspectors can also check the reliability of the certification by sampling paint and having it tested. Such testing can verify whether paints contain lead levels that exceed the legal limit. See box 8 below for considerations in government reviews of company compliance certifications.

#### Box 8. Government reviews of company compliance certifications

In order to verify compliance, government regulators might review compliance documentation. While some laws require that documentation routinely be submitted to the government, other laws may require that it be submitted only upon request.

This review might warrant follow-up action if the certification:

- Was not submitted to the inspector or to the appropriate agency
- · Does not clearly identify the paint product to which it applies
- Does not identify an independent third-party laboratory
- Does not state that the test results were within the legal limit on lead content in paint
- · Is not signed by a responsible company official.

#### 3. Targeting inspections

Although frequent inspections can produce greater compliance, resource limitations can constrain the frequency of inspections. One way to promote efficient use of enforcement resources is to target inspections, for example by criteria such as paint production volume, paint type (for example, giving priority to solvent-based household paint) and paint color.

Some lead paint laws require that manufacturers and importers submit certifications to the agency responsible for enforcement, while others require that they be provided to the agency "upon request".

Virtual inspections can help maximize the impact of limited enforcement resources. Requiring that certification be posted on company websites adds transparency and can reduce resource expenditures for checking certification documents.

#### 4. Inspection procedures

#### Role of the inspector

The role of the inspector is to establish the facts, such as by requesting and reviewing the documentation of compliance and comparing the documentation to testing requirements and the limit on lead in paint. Enforcement officials can utilize standardized inspection procedures to ensure consistency and promote fairness (see annex B for a sample inspection checklist). Governments can promote effective inspections by training inspectors on the requirements of the law and the technical aspects of taking paint samples.

#### Pre-inspection procedures

A good starting point for inspectors can be to review the requirements of the lead paint law. Some countries' lead paint laws cover all paints, while others cover only a subset. Moreover, some lead paint laws have different compliance deadlines for different types of paint.

The material and equipment needed for the inspection may include a notebook and sampling equipment (including containers to transport the samples). The inspector may also bring compliance resources such as a list of accredited laboratories, information on obtaining access to alternative ingredients that do not contain lead and forms for documenting compliance.

#### Procedures during inspection

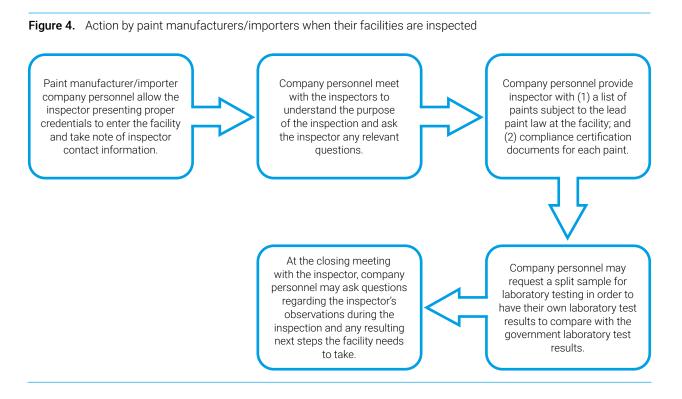
The inspector should comply with applicable entry requirements such as presenting inspector credentials and entering the facility (e.g., the manufacturing or customs facility, or distribution centre) at a reasonable time. Often, inspectors meet with appropriate personnel to explain the purpose of the inspection, provide information, and respond to questions. Communication between the inspector and the company can help promote compliance.

The inspector may review the certification documents and/or check the paint at the facility. The inspector may request a list of all paints produced at the facility and check that list against the company documents certifying compliance with the lead limit for each paint. Inspections of retailers and distributors can verify whether paint products in the marketplace are in compliance. The inspector can also take paint samples for laboratory testing, by applying the paint to a non-reactive surface, letting it dry and submitting this sample to the laboratory for analysis.

When sampling, following chain of custody protocols can help mitigate litigation risk. Chain of custody refers to documenting a complete record of all personnel involved in preparing and transmitting samples for testing at a third-party accredited laboratory. Procedures necessary for a proper chain of custody include the name and signature or initials of the collector, the date and time collected, sample identification, and the source of the sample, among other requirements. For instance, the Lead Safe Paint Certification Requirements protocol of the IPEN Lead Safe Paint programme provides chain of custody procedures for lead paint samples (see IPEN 2015, appendix A).

To ensure reliable results, sample preparation by the laboratory should be performed in accordance with internationally recognized sample preparation methods, such as those listed in appendix II of the Model Law. Some companies may request a split sample, which is separated into at least two representative parts to be tested at different laboratories.

The inspector should only discuss factual observations with the company and should not discuss legal conclusions such as whether those observations indicate a violation. The inspector may inform the company of the consequences of non-compliance, which may include civil or criminal enforcement actions. See also figure 4 for possible actions by the manufacturer and importers when their facilities are inspected.<sup>16</sup>



<sup>16</sup> Inspection provisions in different countries' laws may vary.

If lead paint was produced legally before the limit on lead content in paint becomes mandatory, governments may prevent the creation of an underground market by taking steps to take possession of the paint themselves for disposal, require company take-back programmes, or permit these products to be sold for a limited period (e.g., two years), after which they will be subject to applicable requirements for the disposal of waste. Laws in some countries may treat obsolete lead paint as a hazardous waste. Ensuring proper disposal can prevent additional risks to health and the environment. Governments may also encourage companies to replace lead ingredients in their paints prior to the legal limit on lead in paint becoming mandatory.

Government inspectors may also use portable X-ray fluorescence (XRF) analysers to identify paints with high levels of lead for possible follow-up laboratory testing for determination of compliance with a low legal limit. See also box 9 below for information on XRF analysers and considerations for when to use XRF analysis.

#### Box 9

X-ray fluorescence analysers can be used by government inspectors for screening to identify paints with high levels of lead for possible follow-up laboratory testing for determination of compliance with a low legal limit. XRF analysers often lack the sensitivity to measure low enough levels of lead in paint to verify compliance with a low lead limit such as 90 ppm.

Care should be taken to understand the specifications and detection range of a particular XRF instrument. In addition, sample preparation involves applying the paint to a non-reactive surface and letting it dry prior to analysis by XRF. Measurement of lead in wet paint by XRF is not widely recommended.

If XRF analysis is conducted and results are close to the legal limit, additional testing may be needed to verify compliance. If the results are well above the legal limit, verification by laboratory testing may also be desired for certainty (WHO 2020b).

#### Post-inspection

After the inspection, the inspector reviews the evidence and drafts an inspection report to provide to government enforcement officials. The inspector's written observations should include the date(s) of inspection, any gaps in documentation, and test results and dates. The report can also include background information on the company, as well as summaries of interviews and discussions with company personnel (including their names and positions).

The inspection report, similar to on-site inspector discussions with the company, should contain only the factual observations of the inspector, without any conclusions on compliance. The inspector should produce this report and provide a copy of the inspection report to the manufacturer or importer.

Annex C provides a sample inspection report template. See also figure 5 for possible post-inspection actions by the manufacturer.

#### 5. Maintaining compliance records

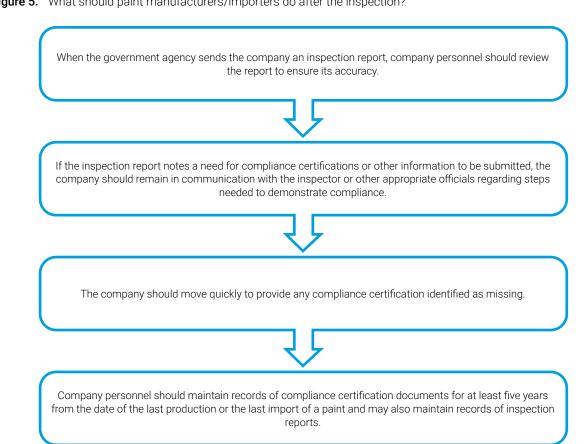
The purpose of the inspection report is to provide government enforcement officials with the information they need to evaluate compliance and determine the appropriate enforcement response to address violations. Where there are uncertainties regarding compliance status, follow-up inspections or communications may be appropriate.

A lead paint law can require that manufacturers and importers maintain records of their compliance certification documents for five years from the date of the last production batch or the last import. Paint products may remain in the channels of commerce for years after being imported or manufactured. Record retention requirements will ensure that companies will be able to provide proof of compliance when requested.<sup>17</sup> Alternatively, companies may post their compliance certifications on the company website, so that they are widely available.

See also figure 5 for possible actions by the manufacturer to maintain compliance records.<sup>18</sup>

<sup>17</sup> For an example of a record retention requirement, see UNEP 2018, appendix I, section D.

<sup>18</sup> Provisions in different countries' laws may vary.



# 5. ENFORCEMENT

Enforcement actions foster compliance and a level playing field by providing a credible threat of sanctions for violations. Three basic principles of enforcement are: legal authority to enforce, deterrence, and fairness. This section describes each of these principles of enforcement.

### A. Basic principles of enforcement

#### 1. Legal authority to enforce

Clear legal authority of the government agency responsible for enforcing the lead paint law is important for the credibility of its enforcement efforts. This includes the authority for inspections discussed in section 4.B.1 above and enforcement authority, including a range of sanctions to provide a strong incentive for compliance.

Enforcement sanction authority may include the ability to:

- Impose a monetary penalty (see box 10 below for a country example)
- Seek imprisonment
- Seize non-compliant paint or ingredients
- Order the recall of non-compliant paint or ingredients (see box 11 below for a country example)
- Bar a facility or company from government loans, guarantees or contracts
- · Stop the import or manufacture of a particular paint until it is brought into compliance
- Shut down a facility or portion of a facility until it achieves compliance
- Emergency powers to enter and correct immediate dangers.

#### Box 10. Monetary penalty

The lead paint law in **Uruguay** and other countries includes provisions for monetary penalties (or fines) for violations. The amount of the fine is established on a case-by-case basis, depending on the magnitude of the offence and its consequences for human health and the environment (Uruguay 2011).

#### Box 11. Recall of paint exceeding lead limit

**Israel** established a lead paint standard with a 90 ppm lead concentration limit for all paints in 2019. In November 2021, the Commissioner for Standards in the Ministry of the Economy of Israel issued a recall of a spray paint exceeding the regulatory limit. The recall called for immediate cessation of use and provided contact information for purchasers to return the product and receive monetary compensation from the manufacturer (Israel, The Standards Institution of Israel 2019; Israel, Ministry of the Economy and Industry 2021).

#### 2. Deterrence

Deterrence is a cornerstone of enforcement. A high likelihood of government detection of violations and the imposition of resulting sanctions can provide a strong incentive for compliance. If enforcement is weak, companies may conclude that it is less costly to violate the law than to comply. On the other hand, if the punishment is excessive, the enforcement programme can lose credibility. For these reasons, the appropriate degree of punishment for non-compliance should be thoughtfully considered.

Strong enforcement action against a company for violating the requirements in the law creates an incentive for compliance by the regulated community. Governments may publicize such outcomes in order to magnify the deterrent effect of enforcement actions across the regulated community and discourage repeat violations.

#### 3. Fairness

Enforcement actions should be proportionate to the seriousness of the violation and the risks posed to human health and the environment. The government agency responsible for enforcement should be consistent in the factors that it applies to determine the sanctions for violations (see section 5.C). The agency should also be consistent in its inspection procedures. Such consistency fosters understanding that the enforcement process is fair and reasonable and promotes respect for outcomes, which lends credibility and legitimacy to enforcement efforts.

### B. Choice of enforcement response

The agency's choice of enforcement response may be based on the specific circumstances of the inspection, postinspection outcomes and the potential violations. Enforcement responses may be informal or formal as outlined below.

#### 1. Informal enforcement responses

One type of informal response is a warning letter. Warning letters can inform a company of the violations found and list specific steps to come into compliance. A warning letter may include reporting deadlines to complete specific compliance actions including submission of the certification(s) of compliance. Warning letters may also provide for follow-up communications between the inspector and the company. Thus, warning letters can provide the agency an opportunity to engage with the company to correct any violations and come into compliance.

When a warning letter leads to a company quickly coming into compliance, an enforcement agency will resolve the case and forgo formal action, as compliance has been achieved. This illustrates that enforcement is not the main objective, but a critical tool to foster compliance. Where a warning letter does not lead to compliance, formal enforcement action is warranted.

#### 2. Formal enforcement responses

A lead paint law (or another relevant law) may specify civil or criminal proceedings for enforcement against violations. Formal actions such as civil<sup>19</sup> and criminal enforcement are intended to punish violators, compel compliance, and to deter future violations of the lead paint law.

While civil proceedings can be more time-consuming and expensive, civil actions may be more visible and provide greater incentive for compliance.

Criminal punishment for violations can include penalties and/or imprisonment of company officials responsible for the violation. The penalties can be higher than allowed in civil enforcement cases. Criminal actions are typically reserved for the most serious cases and require proof of intent.

In some cases, the enforcement agency and the company may negotiate a settlement agreement providing for an agreed penalty and/or other remedies without the need for a court proceeding.

A negotiated settlement agreement may include specific compliance actions and deadlines to document compliance to the agency.

<sup>19</sup> In some countries, civil enforcement proceedings may include administrative proceedings as well as civil judicial proceedings. Administrative enforcement actions are non-judicial enforcement actions using informal administrative proceedings rather than judicial proceedings. Parties in a proceeding present evidence (relevant facts, documentation, witness testimony, inspection reports, etc.) before a hearing officer working at the agency rather than in the judiciary. The hearing officer performs many of the functions of a judge with less procedural formality. Hearing officers have the power to apply civil sanctions for violations of the law.

# C. Factors influencing the choice of enforcement response

An agency responsible for enforcement of a lead paint law can consider its enforcement response based on the following factors:

- Actual or potential harm (the degree to which the violation results in actual harm or increases risk to public health and/or the environment).
- Extent of deviation from meeting the requirements. For example, manufacturing or importing paint with very high levels of lead might lead to a higher penalty than manufacturing or importing paint with a level of lead slightly above the limit (see box 12 below for an example of a government enforcement response).
- The intent of the paint manufacturer or importer. For example, falsifying a certification document might be addressed as a criminal violation.
- Whether the violation was self-disclosed or discovered on inspection. A violation disclosed by the company to the agency responsible for enforcement might warrant a less stringent penalty than a violation discovered by the agency in an inspection.
- Whether the violator has a history of non-compliance.

#### Box 12. Government enforcement response - extremely high levels of lead in paint

If a manufacturer produces household paint with lead above 10,000 ppm, this likely means that the company uses a lead-containing ingredient in manufacturing this paint. The agency might consider bringing a civil judicial action or even a criminal enforcement action to address such a serious violation. In addition, immediate public health and environment concerns may warrant the seizure or recall of the paint and an immediate stoppage of production of the paint.

For an example of a government enforcement response for failure to produce compliance documentation, see box 13 below.

#### Box 13. Government enforcement response - violation of documentation requirement

Where an inspector finds that a company failed to provide compliance documentation, a warning letter might be sufficient to prompt compliance. However, depending on the significance of the omission, administrative or civil enforcement action may be appropriate enforcement responses. Such "paperwork" violations should be taken seriously, as proper documentation can be critical to the agency's ability to verify compliance.

### D. Penalty considerations

The factors listed in section 5.C above can influence both the agency's choice of enforcement response and the magnitude of the penalty. Determining an appropriate penalty may also be influenced by: (1) a claim that the company is unable to pay the penalty proposed by the agency; and (2) the goal of ensuring that violators do not financially benefit from non-compliance. For example, the Model Law contains sample legal text for penalties (see UNEP 2018, appendix I, sections G and H).

To assess a claim of inability to pay, the agency or court should determine whether the penalty is excessive in the light of the potential adverse impact on the community if the penalty were to result in the company ceasing operations. Where inability to pay is documented by official company financial records (e.g., going back at least five years), a penalty can be reduced. Alternatively, a company may be afforded an opportunity to submit payments in instalments over a specified time in order to mitigate the potential for an unintended adverse financial impact.

A paint manufacturer or importer may perceive a financial benefit from non-compliance or delaying compliance. Thus, an appropriate enforcement response and penalty should be sufficient to motivate compliance. A penalty should exceed the economic benefit of non-compliance to maintain a level playing field by ensuring that those who do comply with the lead paint law are not disadvantaged relative to those who do not comply.

# E. Other types of remedies

The lead paint law or other laws may provide legal authority for additional types of enforcement sanctions and other remedies beyond financial penalties (as listed above in section 5.A.1). For example, a lead paint law may authorize the seizure or recall of paints that do not comply with a legal limit on lead content in paint (see, for example, UNEP 2018, key element E; Israel, Ministry of the Economy and Industry 2021). Another remedy to compel compliance is to stop production of a non-compliant paint until compliance is achieved.

Application of such remedies, like penalties, would depend upon the circumstances of the violation, including the potential harm to human health and the environment and the compliance history of the violator. For example, in the above case of the manufacturer of household paint producing paint with lead levels of 10,000 ppm and thus far exceeding the legal limit, immediate public health and environmental concerns may warrant the seizure or recall of the paint and an immediate stoppage of production of the paint (see Box 12). In cases where a violator refuses to comply, an escalation of sanctions may be useful to compel compliance. Also, some laws, such as in the Lao People's Democratic Republic, contain provisions that require a violator to remediate environmental damage caused by the violations or authorize the government to clean up the damage and recover the cost from the violator (Lao People's Democratic Republic, Ministry of Natural Resources and the Environment 2021).

## F. Citizen suits

The Model Law contains sample legal text for provisions authorizing members of the public or groups to bring cases to enforce the lead paint law in court (see UNEP 2018, appendix I, section J). Such actions are known by a variety of names in different countries, such as "citizen suits" in the United States and "public interest litigations" in China. A citizen suit provision can enable members of the public to become stewards of lead paint law enforcement and may fill gaps where the agency is not enforcing, provided it includes appropriate procedural requirements to screen out duplicative or non-meritorious claims.

# 6. PERIODIC EVALUATION

A periodic evaluation of a lead paint law compliance and enforcement strategy can be helpful to assess effectiveness and promote efficiency and improvement over time. Inspection record information on violations and enforcement actions may allow evaluators to identify pockets of non-compliance, where the manufacture, import, or sale of lead paint above the lead limit is continuing. The evaluation may identify opportunities to improve compliance by adjusting the number, training or equipment of inspectors, or the approach to targeting inspections. Evaluations may also identify whether a lack of understanding of requirements, difficulty reformulating or testing paints, or other factors are impeding compliance. The results of an evaluation may suggest a need to shift or mobilize financial or human resources to increase effectiveness of the compliance and enforcement strategy or the lead paint law. For a country example, see box 14 below.

#### Box 14. Revising standards to improve enforcement

Mandatory paint standards established in Malawi in 2013 and 2014 for specific paints, including water- and solventbased paints for interior and exterior use, state that these paints shall contain no lead. In 2020, 57 per cent of homeuse solvent-based paints tested contained lead exceeding the internationally common limit of 90 ppm lead, and 9 per cent of samples tested had lead content greater than 10,000 ppm. The government responded by prioritizing enforcement of a lead limit and monitoring lead content in paint, focusing on coloured paints. As at March 2022, the government had set up a multi-stakeholder technical committee to revise the standard to establish a 90 ppm lead limit and to establish a transition deadline to facilitate compliance (Lead Exposure Elimination Project [LEEP] 2021; UNEP 2022b; Malawi 2013a-g, 2014a-d).

# 7. CONCLUSION

This Guidance outlines compliance and enforcement actions for government officials and provides examples, including from countries that have enacted lead paint laws. The Guidance also provides examples of action that paint manufacturers and importers can take to demonstrate compliance. The development and implementation of effective lead paint laws and compliance and enforcement strategies are important to reduce the harmful adverse impacts of lead paint.

# REFERENCES

Center for Public Health and Environmental Development (CEPHED) (2021). *Compliance monitoring of lead paint standard in Nepal*. http://cephed.org.np/wp-content/uploads/2021/10/Compliance-Monitoring-of-Lead-Paint-Standard-in-Nepal-Print-FILe.pdf.

Colombia, Congress of the Republic of Colombia (2020). Law No. 2041. 27 July 2020.

Enviliance Asia (2020). Mandatory technical requirements for paints published in Viet Nam. 21 December. https:// enviliance.com/regions/southeast-asia/vn/report\_2371. Accessed 24 March 2022.

International Network for Environmental Compliance and Enforcement (INECE) (2009). *Principles of Environmental Compliance and Enforcement Handbook*. United States Environmental Protection Agency. National Service Center for Environmental Publications.

International Network for Environmental Compliance and Enforcement (INECE) (2022). International Network for Environmental Compliance and Enforcement [website]. www.inece.org

International Pollutants Elimination Network (IPEN) (2015). *Lead Safe Paint Certification Requirements*. https://cdn. scsglobalservices.com/files/program\_documents/lead\_safe\_paint\_certification\_requirements\_v.2.pdf.

International Pollutants Elimination Network (IPEN) (2021a). *Lead Levels in Paint Around the World*. https://ipen.org/ projects/eliminating-lead-paint/lead-levels-paint-around-world

International Pollutants Elimination Network (IPEN) (2021b). *Lead in solvent-based paints for home use in Bangladesh.* https://ipen.org/sites/default/files/documents/ipen-2021-lead-paint-esdo\_v1\_2aq-en.pdf.

Israel, The Standards Institution of Israel (2019). Israeli Standard 1343, Paints and Varnishes – General Requirements. February 2019.

Israel, Ministry of the Economy and Industry (2021). *Product Return Call (Recall): Light Green Spray 37.* Israeli portal for the safety of consumer products. November 24, 2021. https://www.gov.il/he/departments/news/paint-spray-recall-241121.

Lao People's Democratic Republic, Ministry of Natural Resources and the Environment (2021). *Decision on the Control of Lead in Paint or Coating Material*. No. 4566/MoNRE, August 2021. http://laoofficialgazette.gov.la/kcfinder/upload/files/4 566%E0%BA%81%E0%BA%8A%E0%BA%AA2021.pdf.

Lead Exposure Elimination Project (LEEP) (2021). *Study results: Malawi and Botswana*. https://leadelimination.org/study-results-malawi-and-botswana/.

Malawi, Standards Bureau (2013a). MS 278:2013 Road marking paint – Specification.

Malawi, Standards Bureau (2013b). MS 279:2013 Emulsion roof paint – Specification.

Malawi, Standards Bureau (2013c). MS 280:2013, Emulsion paints – Specification.

Malawi, Standards Bureau (2013d). MS 282:2013, Decorative high gloss enamel paints - Specification.

Malawi, Standards Bureau (2013e). MS 287:2013, Priming paints for steel - Specification.

Malawi, Standards Bureau (2013f). MS 393:2013, Paint undercoat – Specification.

Malawi, Standards Bureau (2013g). MS 394:2013, Aluminium finishing paints - Specification.

Malawi, Standards Bureau (2014a). MS 381:2014, Bituminous aluminium paints - Specification.

Malawi, Standards Bureau (2014b). MS 386:2014, Bituminous paints for cold application excluding use in contact with potable water – Specification.

Malawi, Standards Bureau (2014c). MS 388:2014, Decorative oil gloss paint for interior and exterior use - Specification.

Malawi, Standards Bureau (2014d). MS 389:2014, Alkali-resistant plaster primer (latex-type) - Specification.

Nepal, Ministry of Science, Technology and the Environment (2014). *Nepal Gazette. Khand 64. Number 30, Part 5, Notice 3.* 22 December 2014. https://www.dop.gov.np/.

Organization for Economic Cooperation and Development (OECD) (2003). *Guiding Principles for Reform of Environmental Enforcement Authorities in Transitional Economies of Eastern Europe, Caucasus and Central Asia.* https://www.oecd.org/env/outreach/26756552.pdf.

Republic of the Philippines, Department of Environment and Natural Resources (2013). *Administrative Order No. 2013-24, Chemical Control Order (CCO) for Lead and Lead Compounds*. December 23. https://chemical.emb.gov.ph/wp-content/uploads/2017/03/DAO-2013-24-CCO-Lead.pdf.

United Nations Environment Programme (UNEP) (2006). *Manual on Compliance and Enforcement of Multilateral Environmental Agreements*. https://wedocs.unep.org/bitstream/handle/20.500.11822/7458/-Manual%20on%20 Compliance%20with%20and%20Enforcement%20of%20Multilateral%20Environmental%20Agreements-2006743. pdf?sequence=3&isAllowed=y.

United Nations Environment Programme (UNEP) (2018). *Model Law and Guidance for Regulating Lead Paint*. https://www.unep.org/resources/publication/model-law-and-guidance-regulating-lead-paint.

United Nations Environment Programme (UNEP) (2020a). *Global Alliance to Eliminate Lead Paint: Frequently Asked Questions.* https://www.unep.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/global-alliance-eliminate-lead-paint/faq.

United Nations Environment Programme (UNEP) (2020b). *Global Alliance to Eliminate Lead Paint: Suggested steps for establishing lead paint laws.* https://www.unep.org/resources/factsheet/suggested-steps-establishing-lead-paint-law.

United Nations Environment Programme (UNEP) (2020c). *Global Alliance to Eliminate Lead Paint: Process considerations for drafting lead paint laws.* https://saicmknowledge.org/library/process-considerations-drafting-lead-paint-laws.

United Nations Environment Programme (UNEP) (2021a). *Lead paint law status interactive map [website]*. https:// saicmknowledge.org/content/lead-paint-law-map.

United Nations Environment Programme (UNEP) (2021b). *Lead in paint laboratory database*. https://www.unep.org/ resources/toolkits-manuals-and-guides/lead-paint-laboratory-database.

United Nations Environment Programme (UNEP) (2022a). *Global Alliance to Eliminate Lead Paint: Toolkit for establishing laws to eliminate lead paint.* https://www.unep.org/toolkit-establishing-laws-eliminate-lead-paint.

United Nations Environment Programme (UNEP) (2022b). *Lead in Paint Community of Practice: Lead Paint Testing: Case Studies of Impact.* https://saicmknowledge.org/event/online-discussion-lead-paint-testing-case-studies-impact. 9 March 2022.

United Nations Environment Programme (UNEP) (2022c). *Global Alliance to Eliminate Lead Paint [website]*. https://www.unep.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/global-alliance-eliminate-lead-paint.

United Nations Environment Programme (UNEP) (2022d). *Lead Paint Reformulation Technical Guidelines*. https://www. unep.org/resources/toolkits-manuals-and-guides/lead-paint-reformulation-technical-guidelines.

Uruguay, Printing and Official Publications (IMPO), Official Information Center, Regulations and legal notices of Uruguay (2011). *Regulation on limitations on lead content in paints and varnishes*. Decree No. 69/011. https://www.impo.com.uy/bases/decretos/69-2011.

Uruguay, Ministry of the Environment (2014). *Decree No. 069/2011 Lead Content in Paints - August 26, 2014*. https://www.gub.uy/ministerio-ambiente/politicas-y-gestion/decreto-0692011-contenido-plomo-pinturas.

Viet Nam, Ministry of Industry and Trade (2020). *Issuing National Technical Regulation on the Limits of Total Lead in Paints*. Circular No. 51/2020/TT-BCT. December 21, 2020.

World Health Organization (WHO) (2020a). *Global elimination of lead paint: why and how countries should take action: technical brief.* https://apps.who.int/iris/handle/10665/333840.

World Health Organization (WHO) (2020b). Brief guide to analytical methods for measuring lead in paint, 2nd ed. https://www.who.int/publications/i/item/9789240006058.

World Health Organization (WHO) (2021). Global Health Observatory. Legally-binding controls on lead paint [website] https://www.who.int/data/gho/data/themes/topics/indicator-groups/legally-binding-controls-on-lead-paint.

# ANNEXES

### Annex A. Sample certification form

[This is a sample certification form to demonstrate compliance with a law regulating lead paint. The form may vary depending on the details of a country's lead paint law. See also the Lead Paint Law Compliance and Enforcement Guidance of the United Nations Environment Programme (2023) for additional information]

[manufacturer or importer logo]

#### DECLARATION OF CONFORMITY

Description of the product	[Description of paints or coating materials to be included under this declaration]
Product	[List of specific paint [names and] identification or product numbers – to be determined by manufacturer or importer, to level of detail sufficient to distinguish included products]
Name and address of the manufacturer or importer providing this declaration	[Company name, company address including country, company contact number and company email address]

This declaration of conformity is issued under the sole responsibility of the manufacturer or importer. We affirm that the paint and coatings products listed above are in conformity with the requirements of:

1. [Relevant national standard, regulation, or statute] on the permissible lead content of paints and similar coatings;

2. [Additional statutory requirements, as applicable].

This declaration is based on the manufacturer's or importer's knowledge of the materials that go into its products and laboratory analysis of its products as at the date of submission of this declaration.

Regulated substances	Maximum concentration value in parts per million (ppm)
Total lead (Pb)	90*

\*Maximum limit does not apply to applications covered by legal exemption.

Applicable exemption(s): [to be determined in national legislation]

Analysis of a sample of the above-mentioned product was tested at the below accredited laboratory:

Testing laboratory	[Name and address of laboratory and laboratory accreditation information]
Contact person at testing laboratory	[Name and contact number of individual responsible for certifying test results]
Date of testing	[Date]
Test used	[ISO or ASTM test conducted]

Sample(s) were found to contain the following concentration(s) of the regulated substances.

Product number		Substance	Concentration found
	[Prod. # 1]	Lead (Pb)	[Enter concentration found]

By signature below, I affirm under penalty of law that the information reported above is accurate.

#### Signature

Date of signature

[Name and title of a high-level company official who performs policy or decision-making functions for the manufacturer or importer and is authorized to report on behalf of the manufacturer or importer]

# Annex B. Sample checklist for lead paint law inspections

[This is a sample template for an inspection to verify compliance with a law regulating lead paint. The checklist may vary depending on the details of a country's lead paint law. See also the Lead Paint Law Compliance and Enforcement Guidance of the United Nations Environment Programme (2023) for additional information.]

Agency name:	
Inspector name:	
Telephone/fax:	
Email:	
Date of inspection: [add once completed]	

#### I. Pre-inspection. Gather relevant information on the facility prior to inspection

A. F	Review key compliance provisions in the lead paint law	Check box	Notes
1.	What type(s) of paint is(are) subject to the lead paint law? <sup>20</sup>		
2.	What compliance date does the lead paint law establish for the type(s) of paint manufactured or imported at this facility?		
3.	What are the compliance documentation requirements in the lead paint law?		
B. I	nspection materials (as needed)	Check box	Notes
4.	Notebook.		
5.	Equipment to take samples for laboratory or X-ray fluorescence (XRF) analysis, including pieces of wood on which to apply the paint, single-use paintbrushes and stirring utensils, and a container to transport the samples. Prior to sampling, the pieces of wood and stirring utensils should not have any paint or coating materials on them.		
6.	Other materials.		
C. C	Compliance promotion materials to provide to the facility (as needed)	Check box	Notes
7.	Country-specific information on the lead paint law requirements.		
8.	List of accredited laboratories.		
9.	List of suppliers of non-lead alternative ingredients.		
10.	Country-specific forms for documenting compliance.		

#### II. On-site inspection

A. F	Facility arrival	Circle or fill in
1.	Conduct inspection on a reasonable date and at a reasonable time.	Date:
		Time:
2.	Present inspector credentials upon entry.	Yes / No
3.	Conduct introductory meeting to explain the purpose of the inspection.	Yes / No
B. A	Applicability. Is this manufacturer or importer subject to the lead paint law?	Circle or fill in
(Ch	oose applicable facility type being inspected)	
4.	MANUFACTURER PAINT TYPE. What type of paint is manufactured?	Paint type(s):
use	te: There are no standardized definitions for different paint types. Countries may different terms for the types of paint (household, decorative, industrial, etc.). Use terminology in the lead paint law of your country.]	

<sup>20</sup> This sample checklist uses the term "law" broadly to refer to the different types of legal instruments used in countries to regulate lead paints, including statutes, legislation, regulations, decrees and technical standards.

5.	<b>IMPORTER PAINT TYPE.</b> What type(s) of paint is being imported?	Paint type(s):	
What	at is the name of the company importing the paint?		
Nar	ne of company		
   Nar	ne of paint(s)		
	······································		
6.	<b>SCOPE/APPLICABILITY.</b> Does the lead paint law limit lead content in this(these) type(s) of paint?	Yes /No	
[No	te: Different countries' lead paint laws vary in the types of paint covered.]		
Тур	e of paint covered		
7.	COMPLIANCE DATE (CD). On the date of the inspection, is the limit on lead	Yes /No	
	content in paint mandatory for the type(s) of paint manufactured or imported?	Paint type:	
	te: Some countries' lead paint laws include different compliance dates for different es of paints.]	CD:	
line	es or paints.j	Paint type:	
		CD:	
		Paint type:	
		CD:	
C. C	Compliance. Request for paint certification documentation		
san	[Note: Some inspections will check compliance documentation, some will check labels, some will include taking samples, some will include on-site testing to screen for potential violations, and some will include a combination of these activities. A particular inspection may omit one or more of the activities listed below.]		
the	se activities. A particular inspection may omit one or more of the activities listed bel	OW.]	
	se activities. A particular inspection may omit one or more of the activities listed bel site inspection activity	ow.] Circle and/or comment	
		1	
On-	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint	Circle and/or comment	
<b>On-</b> 8. 9.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance	Circle and/or comment Yes/No/Not applicable (n.a.)	
<b>On-</b> 8. 9.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint.	Circle and/or comment Yes/No/Not applicable (n.a.)	
0n- 8. 9. [No 10.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.]	Circle and/or comment Yes/No/Not applicable (n.a.) Yes/No/n.a.	
0n- 8. 9. [No 10. Pro	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.] Sample paint(s) <sup>21</sup>	Circle and/or comment Yes/No/Not applicable (n.a.) Yes/No/n.a.	
0n- 8. 9. [No 10. Pro 11.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.] Sample paint(s) <sup>21</sup> vide facility with a split sample, if requested. MATERIAL CHANGE. Has there been a material change to any of the paint formulations since the test that formed the basis for the certification of	Circle and/or comment Yes/No/Not applicable (n.a.) Yes/No/n.a. Yes/No/n.a.	
0n- 8. 9. [No 10. Pro 11.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.] Sample paint(s) <sup>21</sup> vide facility with a split sample, if requested. MATERIAL CHANGE. Has there been a material change to any of the paint formulations since the test that formed the basis for the certification of compliance was conducted? If there has been a material change, has the company retested the paint after the material change?	Circle and/or comment Yes/No/Not applicable (n.a.) Yes/No/n.a. Yes/No/n.a. Yes/No/n.a.	
0n- 8. 9. 10. Pro 11.	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.] Sample paint(s) <sup>21</sup> vide facility with a split sample, if requested. MATERIAL CHANGE. Has there been a material change to any of the paint formulations since the test that formed the basis for the certification of compliance was conducted? If there has been a material change, has the company retested the paint after the material change? Are there paints on-site produced prior to the compliance date of the Lead Paint Law with lead content exceeding the established lead limit?	Circle and/or commentYes/No/Not applicable (n.a.)Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.	
On-           8.           9.           [No           10.           Pro           11.           12.           13.           (a).	site inspection activity Request a list of all paints manufactured at the facility subject to the lead paint law. Request compliance documentation (certification, registration, or document of conformity) for each paint subject to the lead paint law attesting to compliance with the limit on lead in paint. te: Review of compliance documentation can be conducted on-site or remotely.] Sample paint(s) <sup>21</sup> vide facility with a split sample, if requested. MATERIAL CHANGE. Has there been a material change to any of the paint formulations since the test that formed the basis for the certification of compliance was conducted? If there has been a material change, has the company retested the paint after the material change? Are there paints on-site produced prior to the compliance date of the Lead Paint Law with lead content exceeding the established lead limit? If the answer to question 13 is yes, did the inspector inform the company of any	Circle and/or commentYes/No/Not applicable (n.a.)Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.Yes/No/n.a.	

<sup>21</sup> As noted in section 4 of the Lead Paint Law Compliance and Enforcement Guidance, some countries may consider allowing certification of compliance based on safety data sheets (SDS) establishing that paint ingredients do not contain added lead, as an alternative to requiring that each paint be tested to determine if it meets a regulatory limit. In such countries, inspectors may look to the SDS to confirm that ingredients do not contain added lead. While this approach can reduce paint testing costs, it would miss lead if lead were present as a result of contamination rather than due to the intentional addition of lead compounds, or if SDS are incomplete or unavailable. Therefore, relying on SDS would provide less confidence that a paint meets the regulatory lead limit, as it would miss any compounds not reported in the SDS.

### III. Post inspection (off-site)

A. I	nspection report recording inspection compliance information	Circle response
1.	Did the inspector compare the list of all paints produced at the company that are subject to the lead paint law with the certifications obtained from the company?	Yes/No/n.a.
2.	Are there any missing certifications?	Yes/No/n.a.
3.	Complete the inspection report.	Yes/No
4.	If there are missing certifications, contact an enforcement official after the inspection report has been completed.	Yes/No/n.a.
5.	If all certifications were provided, complete the inspection report and place the report in the appropriate file for future reference.	Yes/No/n.a.
6.	Test paint sample(s) once they have sufficiently dried:	Yes/No/n.a.
	(a) Screen using a handheld XRF analyser; or	
	(b) Send sample(s) to laboratory for analysis.	Yes/No/n.a.
7 (a	). On-site testing and/or laboratory analysis results should be compared to the lead limit established in the country's lead paint law <sup>22</sup> and the manufacturer or importer should be notified of these results. If these results exceed the lead limit, notify appropriate enforcement officials.	Yes/No/n.a.
7 (b	). The results of inspector on-site screening using handheld XRF analyser should be compared to the lead limit established in the country's lead paint law and the manufacturer or importer should be notified of these results. If these results exceed the lead limit, notify appropriate enforcement officials.	Yes/No/n.a.

<sup>22</sup> For example, the lead paint laws of many countries establish a legal limit of lead content in paint of 90 ppm.

### Annex C. Inspection report template

[This is a sample template for an inspection report for an inspection to verify compliance with a law regulating lead paint. The format for actual inspection reports for compliance with lead paint laws may vary depending on the details of a country's lead paint law. Text in red indicates where relevant information about the inspection can be added. Check boxes provide a convenient way to check off completed action items.] See also the Lead Paint Law Compliance and Enforcement Guidance of the United Nations Environment Programme (2023) for additional information.

#### **INSPECTION REPORT**

FACILITY NAME:	[Name: company name, facility name]	
ADDRESS:	[Street, building number] [State or province, town, postcode]	
DATE OF INSPECTION:	[Date]	
INSPECTOR:	[Inspector's name] [Title]	
PREPARED BY:	[Inspector's name]	Date
APPROVED BY:	[Supervisor's name]	Date

#### **Purpose of inspection**

This inspection was an evaluation of [facility name]'s compliance with the lead paint law [citation for lead paint law].

#### **Participants**

Inspector(s):

[Inspector's name], [title], [government agency]

[Any other person accompanying the inspector such as subnational government or other agency official], [name of agency or office]

Company representative(s):

[Facility representative(s)], [title(s)]

[Contact information, telephone number and email]

#### Introduction

On [date], I/we arrived at the site at approximately [time]. I/We introduced ourselves, presented our inspector credentials, [identification], provided contact information, and described the purpose and process by which we intended to conduct the inspection. [Name of facility point of contact(s)] provided us with a description of the company/facility:

[Brief narrative description of the facility's operations, including types of paints produced, e.g., household, decorative, architectural, industrial, marine, etc.]

#### Lead paint law compliance resources (as needed)

I/We provided the [facility name] with lead paint law compliance resources.

#### Lead paint certification records review

I/We have requested the following documents:

(1) A listing of all paint produced at [facility name]; and

(2) The corresponding certification records for each paint subject to the lead paint law.

#### Lead paint certification request observations

Depending upon the circumstances at the inspection, either option 1, 2, or 3, below, may be an outcome of records review at the facility:

(1) Certifications records were provided for [identified] paints.

Certification records were not provided for the following paints: [identified paints]; or

(2) The **[facility representative name and contact information (if different from above)**] intends to email me a remainder of the certifications. During my inspection I reviewed **[x out of y]** paint certification records; or

(3) No certification records were provided upon request.

#### Sampling and testing

[Inspector] took [x] number of samples from [y] paint(s) and they were sent to a third-party accredited laboratory for analysis.

[Note: Before sending a paint sample for laboratory testing, some governments may use a portable X-ray fluorescence (XRF) analyser to screen for the presence of lead. If the XRF results show a level close to the regulatory limit, a sample of that paint may be sent to a laboratory to verify whether the lead concentration meets the regulatory limit.]

#### **Closing conference**

The lead paint law and certification review issues observed during the inspection are listed here: (e.g., name and number of paints not certified, any other observations related to the lead paint law).

#### Post-inspection (where applicable)

Additional documents or information needed from facility

The [facility representative] will mail or email the additional documentation listed below that was not provided during the inspections, within a mutually agreed timeframe:

[Agency to list additional documentation requested, such as any test results and certifications of identified paints that were not presented to the inspector upon request during the inspection.]

Items to be provided by the agency inspector/appropriate enforcement official

The [inspector/enforcement official] will mail or email the results of laboratory analyses of samples collected at the facility in order to document the status of compliance with the lead concentration limit.

#### Attachments

- A. Copies of document(s) provided during inspection
- B. Copies of post-inspection documents received to date

