

Jordan Lead in Paint Elimination Policy

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Acknowledgment

Shall be filled after policy adaptation

Abbreviations

BAT	Best Available Technologies
BEP	Best Environment Practices
CPU	Cleaner Production Unit
CSOs	Civil Society Organizations
EPR	Extended Producer Responsibility
ESM	Environmentally Sound Management
GEF	Global Environment Facility
IHME	The Institute for Health Metrics and Evaluation
IPEN	International Pollutants Elimination Network
JSMO	Jordan Standards and Metrology Organization
LiP	Lead in Paint
MoEnv	Ministry of Environment
MoH	Ministry of Health
MoIC	Ministry of Industry and Commerce
RSS	Royal Scientific Society
SAICM	Strategic Approach for International Chemical Management
UNEA	UN Environment Assembly
UN-environment programme	United Nations Environment Program
WHO	World Health Organization

Definitions

Policy: a set of rules or principles that guide any government or any organization for a course of action on a particular subject or in other words a plan of action to address an issue for the purpose of achieving long-term rational goal. It is outlining what any government, or any organization is going to do and what it can achieve for the society concluding a document that can lead to new laws.

Lead: is a versatile and widely used toxic substance. The most used lead pigments are lead chromates and lead molybdates which are bright yellow, orange, or red in color. **Lead carbonates and lead sulfates** can be used as white pigments but are rarely used since lead-free alternatives perform better. Lead is added to paint to obtain specific characteristics, e.g., color, rapid drying, corrosion resistance. Paint with lead is used for decoration of interior and exterior surfaces in homes and public buildings, on roads and bridges, and on toys, furniture, and playground equipment. “Lead paint” or “lead-based paint” is paint to which one or more lead compounds have been intentionally added by the manufacturer to obtain specific characteristics.

Non-lead compounds exist for all the functions of lead in paint and result in paint of equivalent quality.

Executive Summary

The Global Alliance to Eliminate Lead Paint (the Lead Paint Alliance) was established following the second session of the International Conference on Chemicals Management (ICCM2, Geneva, 11–15 May 2009) under the joint leadership of the United Nations Environment Program (UNEP) and the World Health Organization (WHO). The primary goal of the Alliance is to promote the global phase-out of lead paint through the establishment of legally binding control measures in every country to limit the lead content of paints, varnishes, and coatings. The Global Alliance goal in specific is to eliminate Lead Paint (Lead Paint Alliance) to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint. Jordan has around 77 paint industries. Some of the paint produced in the country contains lead, therefore this promoting policy action to protect human health from exposure to lead was pursued.

This policy is based on the Jordan Environmental Protection Law, Public Health law and all the other associated laws, bylaws, regulations, decrees and its goal is to eliminate lead from all types of paints.

This policy was driven by the fact that Lead is a multi-system toxicant accumulates in the body and has no safe level of exposure; thus, achieving of the manufacture and sale of paints containing lead and eliminating its health risks is at the top of the policy's priorities. Additionally, the policy enables having legally binding control measures to stop the manufacture, sale, distribution and import of lead paint and to create strong incentives for encouraging paint manufacturers to reformulate their paints. The policy applies to various categories some of which are household paints, road markings, industrial paints and others.

The policy will have legal, economic, environmental, social, and health impact but this doesn't negate the presence of multiple barriers mainly focused on lack of capacity building, public awareness and lack of right comprehensive standards for enforcement.

The policy detailed a Policy Implementation Plan, LiP Collection Plan, the finances required to execute and implement, and the responsible stakeholders. Lastly, the need for endorsement is vital to its translation.

Introduction

Investment in infrastructure and innovation are crucial drivers of economic growth and development¹. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies.

Technological progress is also key to find lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, are all important ways to facilitate sustainable development. The elimination of lead paint contributes to the achievement of the Sustainable Development Goals (SDGs), SDG targets 3.9² (substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births) and SDG12.4³ (By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment).

Governments are working together to promote policy action to protect human health from exposure to lead. The Global Alliance to Eliminate Lead Paint (the Lead Paint Alliance) was established following the second session of the International Conference on Chemicals Management (ICCM2, Geneva, 11–15 May 2009) under the joint leadership of the United Nations Environment Program (UNEP) and the World Health Organization (WHO). The primary goal of the Alliance is to promote the global phase-out of lead paint through the establishment of legally binding control measures in every country to limit the lead content of paints, varnishes, and coatings. The Global Alliance goal in specific is to eliminate Lead Paint (Lead Paint Alliance) to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint and is working to phase-out the manufacture and sale of all paints containing lead, something the government of Jordan seeks to achieve through the development of this policy.

International Lead Poisoning Prevention Week (ILPPW) raises awareness and promotes actions to address the human health effects of lead exposure, especially for children. During the week, governments, academia, industry, and civil society promote efforts to prevent childhood lead poisoning, and advocate laws to eliminate lead in paint. While many countries have long-established bans on lead paint, it is still legal to sell lead paint for use in homes, schools, and other buildings in more than one third of the world's countries.

To achieve eliminating lead from paint, paint industries in Jordan must stop the use of lead additives in new paints by establishing and enforcing lead paint laws by the government of Jordan. The phasing out of lead paint by 2020 is one of the priority actions for governments included in the WHO Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management

¹ <https://www.undp.org/sustainable-development-goals#industry-innovation-and-infrastructure>

² <https://unric.org/en/sdg-3/>

³ <https://unric.org/en/sdg-12/>

towards the 2020 goal and beyond. This road map was approved by the Seventieth World Health Assembly in decision WHA70(23). A resolution adopted by the third UN Environment Assembly, which is the world's highest-level decision-making body on the environment, encourages governments to develop, adopt, and implement legislation and support the private sector to eliminate lead paint (UNEP/EA.3/L.24)

International efforts to eliminate lead paint have increased and witnessed a growing momentum summarized as follows:

- **At the global level:**
 1. In 2009, the second session of the International Conference on Chemicals Management (ICCM2, Geneva, 11–15 May 2009) nominated lead in paint as an emerging policy issue for voluntary cooperative action for risk reduction by countries under the Strategic Approach to International Chemicals Management (SAICM) policy framework.
 2. In 2011, following a request from governments at ICCM2, the Global Alliance to Eliminate Lead Paint (the Lead Paint Alliance) was established under the joint leadership of the United Nations. The primary goal of the Alliance is to promote the global phase-out of lead paint through the establishment of legally binding control measures in every country.
 3. In 2017, the World Health Assembly approved the Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management towards the 2020 goal and beyond (decision WHA70(23)), which includes national action to phase out the use of lead paint.
 4. In 2017, the United Nations Environmental Assembly adopted resolution UNEP/EA.3/Res.9 on eliminating exposure to lead paint and promoting the environmentally sound management of lead acid batteries.
 5. In 2019-2022: SAICM GEF project is launched with the aim for 40 or more countries to pass lead paint new laws or improve existing laws among of which is involved and represented by RSS through its project.
- **At the regional level,** lead in paint revealed the formulation of 6 new regulations because of the 2012-2015 IPEN EU SWITCH-Asia lead paint elimination project. Moreover, 4 new additional new regulations formulated because of the 2014-2017 UNEP-IPEN GEF Lead Paint Elimination Project in Africa.
- **At the national level:** The Ministry of Environment (MoEnv) , the national focal point of SAICM in addition to being the national focal point for the four international chemical conventions: Basel, Rotterdam, Stockholm and Minamata, was established in 2003 as per the environment protection temporary law No. 1 for the year 2003 is the reference law which organizes MoEnv activities. The law aims at protecting all environmental components. Paint shall comply with Article (4) of this law, which is related to the necessity of preserving the environmental components including atmosphere, water, soil, and the natural living beings. The MoEnv had issued the regulation No. 68, 20 for the Management of Materials and Hazardous Waste where in the banned list in Annex I lead arsenate and lead sulfate are included and in the restricted list of chemicals Annex 2 lead compounds are restricted.

The Ministry of Health with the vision that call for a healthy community within a leading comprehensive health system ensuring equity, efficiency and high quality at the nations level established since the country founded. MoH mission is to protect health by providing high quality and equitable preventive and curative health services by optimizing utilization of resources, technology advances and active partnership with the concerned authorities and by adopting a monitoring and regulatory role related to services concerned with the health of citizens and implied in a national comprehensive health policy. Public Health Law No. 47 for the year 2008 states that, under the penalty of the law, it is not allowed to cause or be the cause of any hygiene mishap, which includes a special chapter for chemical materials.

Paint National Standard Specifications are issued by the Jordanian Standards and Metrology Organization (JSMO) which was established as a public organization with financial and administrative autonomy in accordance with the Standards and Metrology Law No. 15 for the year 1994, amended in accordance with the Law No. 22 for the year 2000. JSMO has the responsibilities to adopt the national system for standardization and metrology based on accepted international practices. To keep pace with scientific and technical developments in the fields of standards, metrology, conformity assessment and laboratory accreditation and ensuring the health and safety of the Jordan's citizenry and protection of the environment by making sure those goods, products and services follow the technical regulations adopted by the organization for the purpose.

A revision⁴ of the Jordanian Standard for paints is aligned with Ministry of Health decree. Lead chromate compounds may still be used in industrial paints, car paints and road marking paints (except curb stone paint) until the end of 2022. These paints must have precautionary labelling declaring the inclusion of lead in the product. The five new standards for decorative paints were revised in first quarter of 2022 to align with Ministry of Health (with a 90-ppm lead limit) Decree ⁵issued in Official Gazette No. 5503, 1 March 2018. Five revised standards:

1. JS 989:2012: Paints and varnishes - Textured paint (synthetic resin emulsion type); amend 1/2021-989; published 1/2/2022.
2. JS 1035:2010 Paint and varnish - Flat alkyd-based paints for interior and exterior use; amend 1/2021-1035; published 1/2/2022.
3. JS 1139:2010 Paint and varnish - Air drying semi-gloss paints for general purposes; amend 1/2021-1139; published 1/2/2022.
4. JS 1036:2010 Paint and varnish - Alkyd based undercoating paints for general purposes; amend 1/2021-1136; published 1/2/2022; and
5. JS 244:2010 Paint and varnish - Air drying gloss paints for general purposes; amend 1/2021-244; published 1/2/2022.

As of 15.06.2022, lead concentration limit is 90 ppm total lead limit for the import and sale of household and decorative paint; exceptions for industrial paints, car paints, road paints and artist's paints. The 2018 Ministry of Health decree reduces the maximum allowable limit of lead in household decorative paints from 600 ppm to 90 ppm. This decree came into force on publication.

⁴ <https://pm.gov.jo/Ar/Pages/NewsPaperDetails/5771>

⁵ ech-lead-regulations-database-update31aug2021

The Environmental Health Directorate has also the responsibility to check on the compliance of all industries with the health protection requirement. Disease Prevention and Safety Directorate and Occupational Health Division conduct periodical inspection programs on all industries in Jordan. The objective of the Chemical Safety Department in the Environmental Health Directorate is to protect public health from the negative impacts resulting from handling chemicals throughout the whole process (importation, transportation, storage, and end use).

As per the Ministry of Industry and Commerce MOIC Import regulation No. 109 for the year 2015 Article (6) defines the chemicals list that are considered banned or restricted by the legislation of the Ministry of Environment and whose import requires the approval of the Ministry of Environment, and the Law of Control and Inspection of Economic Activities No. 33 for the year 2017⁶ which also requires the approval the Ministry of Environment for the economic activities pertinent to chemicals but also other ministries as indicated in the law.

In Jordan there are around 77 paint industries producing all types of paints including car refinish, coil coating, powder, etc. and most of the companies are considered SME's. There are no statistics for paint retailers in Jordan as only few retailers are specialized in paint only since most of them are selling construction materials in general. For paint importers many companies have dual licenses to import paint and other chemicals, but they did not provide data on their import. ⁷In Jordan the production price of paints, varnishes, coatings, and printing inks in the year 2017 was 274,830,000 JOD, and the quantity of imported materials for paints, varnishes, coatings, and printing inks industries was in the year 2017, 30,767,981 kg which is equivalent to 59,402,226 JOD.

Lead is a cumulative toxicant particularly harmful to young children and pregnant women. The cost⁸ of reduced cognitive potentials (loss of IQ points) due to preventable childhood lead exposure in low and middle-income countries is estimated as 977 billion USD annually. The Institute for Health Metrics and Evaluation (IHME) has estimated that in 2015 lead exposure accounted for 494,550 deaths due to long-term effects on health, with the highest burden in low- and middle-income countries. IHME also estimated that lead exposure accounted for 12.4% of the global burden of idiopathic intellectual disability, 2.5% of the global burden of ischemic heart disease and 2.4% of the global burden of stroke. Lead in paint is a major source of childhood lead exposure.

Children are exposed to lead from paint when lead-containing paint on walls, windows, doors, or other painted surfaces begins to chip or deteriorate since this causes lead to be released to dust and soil. When a surface previously painted with lead paint is sanded or scraped in preparation for repainting, very large amounts of lead-contaminated dust is produced, which when spread, can constitute a severe health Hazard⁹.

Lead has toxic effects on almost all body systems and is especially harmful for children and pregnant women. Lead paint is an avoidable source of exposure to lead. One important way to prevent exposure is for countries to establish legally binding regulatory measures prohibiting the addition of lead to all

⁶ <https://mit.gov.jo/Ar/List/%D8%A7%D9%84%D9%82%D9%88%D8%A7%D9%86%D9%8A%D9%86>

⁷ PROMOTING REGULATORY AND VOLUNTARY ACTION BY GOVERNMENT AND INDUSTRY TO PHASE OUT LEAD IN PAINT NATIONAL BASELINE INFORMATION ON LEAD PAINT IN JORDAN September 2019

⁸ PROMOTING REGULATORY AND VOLUNTARY ACTION BY GOVERNMENT AND INDUSTRY TO PHASE OUT LEAD IN PAINT NATIONAL BASELINE INFORMATION ON LEAD PAINT IN JORDAN September 2019

⁹ <https://ipen.org/projects/eliminating-lead-paint/ipen-research>

types of paints. This policy brief summarizes key information explaining the background and rationale for eliminating lead paint and describes what Jordan should do to prevent exposure to lead.

Vision (no lead in paint by 2030)

No lead in paint by 2030 through establishing legally binding regulatory measures prohibiting the addition of lead to all types of paints and thus have an effective contribution to achieving sustainable development goals, in specific to SDG3.9 and SDG12.4

Goal, purpose, and objectives

The **goal** of this policy is to eliminate lead from **all types of paints**.

The **purpose** of this policy is that lead in paint is a problem attributed to being Lead a multi-system toxicant accumulates in the body, affecting practically all organ systems, including the central nervous system and brain, the reproductive system, the kidneys, the cardiovascular system, and the blood and the immune system; persistent in the environment and when released can remain there indefinitely; a source of lead exposure during its manufacture, application, and removal; Paint breaks down over time, fragmenting into flakes and dust that can contaminate the domestic environment; Lead paint can leave a legacy of potential human exposure for many years into the future – children are particularly vulnerable; peeling, chipping, chalking or cracked is a health hazard; Lead chips and dust can settle on surfaces and objects that people touch. Settled lead dust can re-enter the air when people vacuum, sweep, or walk through it; dust from lead paint can contaminate soil; Lead in soil can be a source of exposure when children play on the ground, or when people bring soil into the house on their shoes; and plants can absorb lead from the soil and lead can enter the food chain; and Lead present in soil may also migrate into ground water in certain circumstances. There is no known safe level of lead exposure and even low levels may cause lifelong health problems.

The policy broad **objectives** are:

1. To achieve the phase-out of the manufacture and sale of paints containing lead.
2. To eliminate the risks that lead paint pose on the health of all members of the Jordanian community and their surrounding environment.
3. To have in place legally binding control measures to stop the manufacture, sale, distribution and import of lead paint (statutes, regulations, and/or mandatory technical standards establishing a binding, enforceable limit on lead in paint, with penalties for non-compliance, lead paint law is enforceable, whereas voluntary control measures are not).
4. To create strong incentives for encouraging paint manufacturers to reformulate their paints, ingredient suppliers to produce more and better non-lead ingredients and – paint importers and distributors to sell paints that comply with the law and a strong law creates a fair competitive market for all paint manufacturers, importers, and exporters.

Policy statement

This Policy aims to present the commitment of the Jordanian Government in collaboration with the all line ministries, organizations, and research and academic institutions in ensuring the use of lead free paint and in making sure that Jordanian community members are living in safe ambient.

This policy is to increase the awareness of individuals and institutions about the negative effects of the use of paint containing lead. This will be done through the formulation of a national legislation to manage and phase out (eliminate lead from paint by 2030), review the status of specifications until 2030, the implementation of awareness campaign plan including media and other means and skills involving all stakeholders (government, private sector, CSOs, academic, schools, universities, and individuals). This will, moreover, fulfil the codes of ethics for the use of lead paint.

By producing paints without lead, potential health risks posed to children and workers can be avoided. It is significantly more cost-effective to ban new sources of lead paint and promote lead-safe alternatives than to remediate contaminated homes, schools, and playgrounds; Laws, regulations, or enforceable standards are needed in Jordan to stop the manufacture, import and sale of lead-containing paints; and the manufacture of paint without added lead does not involve significant additional cost, and alternative lead-free ingredients are available. Many national paint manufacturers have already stopped adding lead to their paints or have committed to do so.

This policy will also work on defining new specifications for paint according to the nature of use. The following initial requirements have been identified: banning the manufacture paint containing lead through careful carrying out technical studies to develop a specification for environmental and health friendly paint content; develop and implement a plan for supporting private sector companies and factories for production operations. According to the new technical specifications there is a need to develop and apply specifications for environment friendly paint and establish gradually by 2030 full phasing out and the establishment of new production lines to produce lead-free paint.

The Government of Jordan in close cooperation with all line ministries, organizations and research institutions shall ensure that all work involving lead-based paint be conducted in accordance with this policy to maintain employee or occupant exposures below established threshold levels. The main role of the Government of Jordan would be to ensure that the details regarding the linkages between research and authorities, and the necessary measures for control of lead in paint. The Government of Jordan would play a major role in developing educational material technically sound, appropriate for the target population (correct language, respects cultural protocols, etc.); and carrying out training, involving in community education efforts, in coordination with national public authorities.

The policy requires the commitment of paint industries stop adding lead and its compounds into paint. It is the responsibility of the MoEnv, MoH, Ministry of Finance / Department of Customs, the MOIC and JSMO being the Ministry of Environment the focal point and in charge of implementing, enacting, and tracking each element of the Policy. Accredited national research institutes will be considered for sampling, analysis, reporting, consultation, seeking advice and counselling. Manufacturers shall stop adding lead to paint, alternatives are available. Out of this policy, detailed procedures will be developed for implementation purposes considering the international lead paint reformulation technical guidelines.

The policy also emphasizes additional details such as employees training; use of administrative controls, hazard isolation, locking, warnings, signs, and symbols marking hazards, etc.; use of personal protective equipment (PPE); removing hazardous materials; improve lighting and working environment.

This policy will work on creating the ground of a national legislation, making community aware through activities of education and awareness raising and training and building the capacities of people in the authorities and industries.

Policy scope

This policy covers all Jordan. It also covers all paint industry, and to cover old households, government buildings, and private sectors activities within Jordan. In addition all types of paint are included such as:

This policy applies to all below mentioned categories:

- Household paints for both indoor and outdoor, solvent/oil-based, enamel and water-based, base coating and top coating, and decorative.
- Road Marking paints
- Industrial paints, including automotive paints, epoxy paints, aluminum frames paints, steel structures and equipment paints, plastic paints, toys paints, furniture paints, powder, and liquid, etc.
- Artist's paints
- Others, including inks, carnival make-up, textile dyes, etc.

The scope covers the paint manufacturers as well as traders, in addition to the paint application and removal activities.

Policy guiding principles

This policy is guided by the following principles as follows:

- Environmental conservation, protection and pollution control and management.
- Safe disposal in a manner that is safe and sound with respect to surrounding environment of Jordan, its citizens, private and public institute operations, and stakeholders.
- The Government of Jordan acknowledges the importance of an informed society in the sustainable management of Lead in Paint, and public awareness and environmental education and children's rights to play and recreation. It is highly important to mobilize and sensitize stakeholders on the proper management of being aware of the danger of lead in paint.
- Policy framework: The Government of Jordan recognizes the need to follow, apply and develop the international lead paint reformulation technical guidelines.
- Public participation in decision-making and access to information through creating an enabling policy environment allowing public a greater say in public health measures affecting their health from lead paint. Participating is a right and an essential principle for guaranteeing people and child safeguarding
- All people and in specific children have an equal right to protection and the promotion of their wellbeing.

- Everybody has a social and moral responsibility for safeguarding people's and children health and their surrounding environment in specific paint industries.
- All information and reports of concern regarding the safety and protection of people and child shall be taken seriously.
- Share this policy and associated information with others is open for feedback.
- Lead poisoning may be misdiagnosed e.g., as appendicitis, psychiatric illness.
- To use Best Available Technology and Best Environmental Practices (BAT&BEP).
- To develop and implement a critical human resource base knowledgeable in mixing alternatives.
- To create a national advisory committee, lead paint specific.
- Establish participatory consultation mechanisms between the advisory committee and the public at large, with the aim of better have an early warning system, better education on required public health measures, and empowering government staff and industry.

Health Effects of Lead Exposure

- There is no known safe level of lead exposure and even low levels may cause lifelong health problems.
- Lead is toxic and accumulates in the body, affecting practically all organ systems, including the central nervous system and brain, the reproductive system, the kidneys, the cardiovascular system, and the blood and the immune system.
- Infants or children who survive severe lead poisoning can be left with permanent neurological injury such as deafness and mental retardation.
- Lead causes a significant burden of disease through other long-term impacts on health, such as: antisocial behavior, cardiovascular and renal disease; and there is no therapy that can reverse the effects of lead on brain development and the cardiovascular system.
- Lead exposure can also cause hypertension, renal impairment, immunotoxicity and toxicity to reproductive organs.
- Lead is especially dangerous to children's developing brains and can damage the brain and nervous system resulting in decreased intelligence quotient (IQ) through reduced cognitive abilities, dyslexia, attention deficit disorder and antisocial behavioral problems and reduced educational level – these may be irreversible, health impacts result in significant economic, social, and healthcare costs. Children can be highly exposed because they spend time on the ground and in contact with contaminated soil and dust, they frequently put their hands to their mouths and absorbs more lead from the gut than adults.
- Often onset of symptoms is insidious, such as anemia, colic, etc.
- Lead binds to red blood cells and distributes to soft tissues, e.g., brain, kidneys, and bone.
- Lead absorption is increased when there is nutritional deficiency e.g., calcium or iron deficiency.
- Lead is stored in bone for many years (half-life = 10–25 years). In adults 90% of body burden may be in bone. Lead in bone provides a store from which lead can move back into blood and to target organs.
- Features of overt poisoning include anorexia, abdominal colic, constipation, fatigue, mood changes, anemia, and developmental regression in young children.
- Low-level and chronic exposure is often the type of exposure caused by lead paint

- Severe lead poisoning is possible from repeated ingestion of lead paint chips (pica). Note: pica is a syndrome of an appetite for non-nutritional substances.
- Exposure may already occur through maternal cord blood (in utero).
- The fetal period and early childhood are critical periods for neurological and organ development.
- Damage to the neurological system may be irreversible.
- Pregnancy mobilizes lead stored in bone, releasing it back into blood where it can be circulated to maternal tissues and the fetus and thus may cause reduced fetal growth. It is in addition, Lead exposure in pregnancy increases risk of complications e.g., hypertension, premature birth. Lead can remobilize as well during lactation and the menopause.
- Evidence of reduced intelligence caused by childhood exposure to lead has led the World Health Organization (WHO) to list “lead caused mental retardation” as a recognized disease. WHO also lists it as one of the top ten diseases whose health burden among children is due to modifiable environmental factors. Lead from paint is recognized as one of the major sources of childhood lead exposure.
- Children and workers are especially at risk when surfaces that were previously painted with lead paint are repainted or disturbed by construction or other activities. Workers may sand, dry scrape, grind, or in other ways disturb the old painted surface and produce large quantities of dust with very high lead content. Children have an innate curiosity to explore their world and engage in developmentally appropriate hand-to-mouth behavior. For example, a typical one- to six-year-old child ingests approximately 100 milligrams of house dust and soil each day. Wherever house dust and soils are contaminated with lead, children ingest lead along with the dust and soil. Ingested lead in children who suffer from nutritional deficiencies is absorbed at an increased rate.
- Children are more biologically susceptible to lead than adults for several reasons, including a child’s brain undergoes very rapid growth, development and differentiation and lead interferes with this process. Brain damage caused by chronic, low-level exposure to lead is irreversible and untreatable; Exposure to lead early in life can re-program genes, which can lead to altered gene expression and an associated increased risk of disease later in life; and gastrointestinal absorption of lead is enhanced in childhood. Up to 50 percent of ingested lead is absorbed by children, as compared with 10 percent in adults (pregnant women may also absorb more ingested lead than other adults).

Context, importance, and issue analysis (country situation)

Jordan has around 77 paint industries and many other operate illegally from their houses. Some of the paint produced in the country contains lead. However, indoor paint content is supposed not to exceed 90 ppm. The authority of paint lead monitoring is split among different ministries and the specification is monitored by JSMO. Lead is highly toxic mainly on kids below 6 years of age, but also for pregnant women. In addition, lead is accumulative and hard to remove from the body. It harms environment, aquatic life and pollutes the air and water. Therefore, this policy is of high importance as it lays down the base for coming up with a national legislation and would at the long run eliminate lead from paint and therefore, protect the health of kids, women and all the community members. Little is known at the national levels about lead impact, level of community awareness is low, meanwhile the quantities of

paint use are on the increase. Research and studies in this area is almost absent. This may mean that the current situation is not clear and possibly unknown.

Jordan is classified as upper middle-income country according to World Bank. The cost of removing existing decorative lead paint from surfaces in homes, schools, and other buildings is significant. By comparison, the cost for eliminating the use of lead compounds in new paints is low and alternatives to lead additives are available for all types of paints.

Many Jordanian manufacturers have successfully reformulated their paint products to avoid the intentional addition of lead. However, the continued use of lead paint in Jordan remains a significant source of human exposure. There are yet still barriers to their use such as lack of regulations, access to vendors and lack of awareness of small and medium sized manufacturers (SMEs) to the need for phasing out lead paint. Most of the paint manufactures in Jordan are classified as an SME, with limited technical and financial resources.

Jordan has a legally binding standard in place that applies to all lead compounds with a binding limit of (90 ppm) of lead in paint. The exceptions are for industrial paints, car paints, road paints and artist's paints.

The economic costs of childhood lead exposure in Jordan are 466 million USD¹⁰. The average blood lead level is 1.78 ug/dl and presumed IQ loss is 149,024 points. In 2012 before the adoption of the standard, IPEN conducted a study in the country, where the regional partner NGO collected randomly 17 different paint samples representing 16 Jordanian industries and importing companies and the Royal Scientific Society (RSS) did the analysis. Levels of lead exceeding target levels of 90 ppm were found in 17.6% of samples. Some advocacy and awareness raising actions were then undertaken by a local NGO (LHAP- Land and Human to Advocate Progress) and next steps for action were highlighted, such as carrying out a wider awareness raising campaign with focus on schools, teachers, media, and women specifically, in addition to decision makers.

Jordan Cleaner Production Unit (CPU) has been selected as a project executing partner in **Output 1.1 of the Strategic Approach to International Chemicals Management (SAICM) Global Environment Facility (GEF) lead in paint project**. CPU is part of the Royal Scientific Society, the biggest non-profit organization in Jordan. The institution, founded in 1970, focus on industry support and sustainable development. Since CPU establishment in 2004, the Unit has gained good experience working with industry in Jordan, including paint manufacturers. CPU has performed many projects with UN Agencies, showing good results and participating in achieving the SDGs. CPU is seen as an independent third party by industries in Jordan, which facilitate cooperation with the industry and achievement of good results. CPU staff is highly competent, with relevant qualification and expertise. In addition, it is supported by a pool of experts in different areas through other RSS technical centers.

¹⁰ Global Environment Facility (GEF) 9771: Global best practices on emerging chemicals policy issues of concern under the Strategic Approach to International Chemicals Management (SAICM) Component 1: Promoting regulatory and voluntary action by government and industry to phase out lead in paint

Policy Approach

This policy is developed in the framework of CPU / RSS GEF project utilizing the following approach:

1. Conducting desktop research covering all what has been done in the country by RSS, MoEnv, MoH, JSMO and civil society organizations.
2. Get acquainted about the international efforts mainly coming from WHO, UNEP, IPEN, RSS, and LHAP and special countries like Philippines to learn from and transfer the know how to Jordan during the development of this policy.
3. Presenting the outcomes of the CPU unit of RSS to the public through an organized awareness raising campaigns and have their feedback and concerns incorporated into the policy
4. Presenting the policy outcomes to the CPU of RSS GEF project for discussion, feedback, and comments.
5. Circulate the policy to the project steering committee for feedback and comments.
6. Circulate the policy to the MoEnv, MoH, Ministry of Finance / Department of Customs, the MOIC and JSMO for verification and comments.
7. Communicate the policy to the international organizations supporting and involving this program for feedback and comments such as to UNEP, WHO, and SAICM.
8. Have the policy posted on the RSS/CPU unit for public involvement and comments.
9. Endorse the lead paint elimination policy and have it finalized after merging all the received comments into the policy document.
10. Forward the policy to the MoEnv, MoH MoIC, Ministry of Finance, Ministry of Agriculture and other line ministries and institutions for adoption and consideration.
11. Have the policy in its final form after endorsement and include as part of the documents to the focal point of the supporting organization (UNEP and SAICM) in the hands of MoEnv, SAICM focal point.

Expected policy impact

Having this policy being prepared, reviewed, and endorsed, it is expected to have the following impacts:

- Legal
- Economic
- Environmental
- Social
- Health
- Cohesion and appropriate coordination among the various stakeholders.

Geography policy coverage / applicability

This policy shall apply to all paint sectors in Jordan.

Authority and Policy responsibility

By authority delegated from the Advisory Committee headed by MoEnv is responsible for the safety of all Jordanian community members and their facilities; under this authority, policies are developed to provide a safe teaching, research, service, housing, recreational environment, and the natural ambience.

MoEnv will serve as the liaison with regulatory agencies and serve as the clearinghouse for the dissemination of country requirements and regulatory information to groups involved in lead-based paint activities.

The national research centers can help in sample collection and analysis for the initial determination of lead content in paint in addition to carrying out studies and research and produce scientific analyzed report.

MoEnv and other line ministries supervisors are responsible for evaluating all work activities as they relate to this policy, and for taking necessary steps to ensure their employees work in compliance with this policy. Department heads are responsible for ensuring that their employees operate in compliance with this program. Materials identified as having lead paint must be further characterized to determine if they are subject to hazardous waste disposal restrictions. Lead survey information must be provided to the contractor and the contractor must comply with applicable worker training and worker protection legislations as required by MoEnv and its line ministries and organizations.

Policy progress, review, evaluation, auditing, and monitoring

Realizing the output of this policy shall require consistent monitoring and evaluation of the output indicators. MoEnv and the **advisory committee comprised of** MoH, Ministry of Finance / Department of Customs, the MOIC and JSMO and any other relevant stakeholders will carry out monitoring and evaluation to ensure midterm review of the policy. The policy implementation shall be reviewed through the performance contracting executing and reporting structures. A policy implementation plan shall be developed every financial year including actions, actors, time, and resource plans.

Policy Barriers: Barriers to Developing and Implementing Lead Paint Laws

- General lack of awareness on the issue of lead.
- Insufficient of mandatory standards for lead in paints in Jordan.
- Lack of understanding and underestimating the health impact.
- Lack of knowledge of available tools.
- Difficulty and weakness in the medical diagnosis to metallic intoxication, including intoxication by lead
- Increasing the productivity of paints and their uses.
- A growing industry, with an annual production value of 85 billion USD worldwide.
- Its growth is linked to economic growth thus means an increase in the use of lead content if alternatives are not taken.
- Paint is not clearly labeled as this makes it difficult for governments, paint manufacturers, architects, workers, health care providers, health officials, environmental experts, and consumers to take appropriate measures to reduce exposure risks such as the use of substitutes.

Policy elements /tools to support the development:

This policy is based on the Jordan Environmental Protection Law, Public Health law and all the other associated laws, bylaws, and regulations and decrees. Tools to support the development of this policy and constitute its major elements are:

- Legal framework- other related policies Legal, Institutional framework, and stakeholders' involvement.
- Capacity needs assessment for national stakeholders to implement the policy followed by capacity building / staff skills.
- Environmental Sound Management (ESM).
- Education, research, awareness, and information dissemination (role of media).
- Resources mobilization.
- Regional and International cooperation.
- Measures to prevent adding lead into the paint.
- LiP Economics: Encourage the private sector to invest in the business of LiP alternative. To achieve this purpose, an incentive system should be developed such as adopt prior use fees for LiP, tax exemption, tax refund, certificate of recognition to facilitate for firms obtain ISO's.
- LiP information: Calculating the quantities and qualities of current LiP is an important element in its management (conduct an inventory study). This should be followed by the establishment of a national database on LiP. The system will be comprised of registration, licensing, permission, monitoring, environmental auditing and reporting of personnel and entities involved in the process of management. The data will be made available for individuals wishing to invest in this business or for researchers.
- Jordan shall benefit in this regard from international initiatives, best practices and success stories present by international agencies in developed and developing countries.
- Compliance mechanism (internal and external).
- It is significantly more cost-effective to ban new sources of lead paint and promote lead-safe alternatives, than to remediate contaminated homes, schools, and playgrounds.
- Laws, regulations, or enforceable standards are needed in Jordan to stop the manufacture, import and sale of lead-containing paints.
- The manufacture of paint without added lead does not involve significant additional cost, and alternative lead-free ingredients are available. Many national paint manufacturers have already stopped adding lead to their paints or have committed to do so.

Policy implementation plan at different sectors levels (re-arrange the sectors)

The policy is implemented through a set of measures such as economic incentives. The implementation of this policy shall be the responsibility of the various departments to which it applies, MoEnv is responsible for:

- Responding to requests of industries and the public at large.
- Performing inspections of job sites, materials, and equipment for quality control as necessary.
- Coordinating exposure air monitoring, if necessary.

- Conducting lead awareness and training for the MoEnv staff and the line ministries and institutions.
- Apply the EPR for the paint containers until paint is lead free.
- Procuring the services of the government sector shall consider only buying lead free paint.
- MoEnv and the affiliated ministries and organizations are responsible for disclosing the presence of lead to any industries and contractors and applying safety related concerns pertaining to unsafe working practices (i.e., chemical stripping, burning, dry sanding) or procedures conducted on painted surfaces and are brought to the attention of MoEnv and its affiliated ministries and organizations.
- Paint industries are responsible for complying with the national standard of lead in paint JSMO.
- Learn from countries with success stories and transfer lessons learnt and know how.
- To work with international agencies operating in this sphere such as UN-Environment, WHO, SAICM and IPEN to learn more about existing approaches and update the current policy.

LiP collection plan: collection

- Paint with lead manufactured in Jordan including how much contains lead split over types and if any has no lead.
- Paint imported: is it all paint lead free, any contains any lead, uses, domestic, industrial, and other types of paint.
- Paint illegally manufactured: volume produced illegally in Jordan, quality in term lead content
- Facilitate research and development organization to evolve cost effective technologies and effective adaptation for the best available technologies for paint lead free.
- Facilitate the development of skills staff and skills for the implementation of this policy.

Policy recommendation: describe the approach through which the policy will be implemented.

The policy will be implemented by the MoEnv (SAICM national focal point), MoH, Ministry of Industry and Commerce, Ministry of Finance / Customs Department, JSMO mandated by:

- Oversee the implementation of the policy.
- Develop procedures and work instructions for management.
- Minimize the unintended consequence due to the continuation of lead in paint.
- Encourage decisions consistent with the national policies.
- Review inputs from all stakeholders / consumers.
- Monitor the implementation of this policy and advise the MoEnv as appropriate.
- Advise review / improvement of this policy periodically.

Timing

Although the initial stages can happen quite rapidly through the creation of authority advisory committee, the overall outcomes will stretch until 2030 to become visible.

Financing

It is anticipated that to boost the progress of the policy, the following is suggested

- The government to allocate in its annual budget some money could be initiated by the MoEnv and MoH.
- Write proposals and apply to donors to urgently get money to implement the policy and include an incentive mechanism to support paint industry going green and paint lead free.
- As the private sector to contribute especially those considering people health a priority this includes major industry like Potash, Phosphate, Cement ...etc. contribute as part of their social accountability and responsibility and possibly to apply the Extended Producer Responsibility EPR system.
- Utilize the Environment Fund and other national funds and explore possibilities of boosting the policy development and progress.
- Seek support from the internationally concerned bodies like UNEP, WHO, SAICM and GEF.
- Develop financial mobilization strategy to explore all means of funding and thus approach them.

Next steps

The policy next steps are:

- Finalize and endorse the policy by presenting the government officials, official committees, paint industry and the public at large.
- Publish the policy for further feedback.
- Work on developing a national legislation to phase out lead from paint in addition to the various procedures and guidelines touched in the policy.
- Continue the awareness raising campaign by the concerned authorities and responsible as indicated in this policy through engaging communities and the public at large.
- Launching capacity building and trainings programs targeting government officials and paint industry staff.
- Apply the international lead paint reformulation technical guidelines by educating and training addressing government officials and paint industries, a step forward to the paint lead free.

Policy update

The policy shall be reviewed every 3 years or earlier, as need arises.