

# Module D

Industry Perspective on the Elimination of Lead Paint



LEAD PAINT ALLIANCE

# Outline

- Introduction to International Paint and Printing Ink Council (IPPIC)
- IPPIC Commitment to Lead Paint Alliance (LPA)
- Industry Conformance with Existing Legal Requirements
- Technical Feasibility
- Additional Lead Hazard Controls
- Case Studies: Current Industry Collaboration with Governments
- Path Forward: Continued Industry Contributions
- Point of Contact



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# Introduction to IPPIC

- *IPPIC is a global council of national trade associations representing the paint and printing ink industries*
- Established in 1992
  - Networking
  - Information sharing
  - Policy development at national/international level
- Formal Consultative Status with the UN (ECOSOC) in 2003



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# "IPPIC Network" Secretariat (ACA)

## The Americas

- ACA (USA)\*
- ANAFAPYT (Mexico)\*
- CPCA (Canada)\*
- ABRAFATI (Brazil)\*

### LatinPIN (Americas)

Argentina  
Colombia  
Uruguay  
Ecuador

\* IPPIC Member

## Europe

### CEPE (EU)\*

- FIPEC (France)\*
- BOSAD (Turkey)\*
- VdL (Germany)\*
- BCF (UK)\*
- IVP (Belgium)
- DFL (Denmark)
- PUPVPIM (Greece)
- ASEFAPI (Spain)
- AVISA (Italy)
- GFCV (Luxemburg)
- VVVF (Netherlands)
- MLF (Norway)
- FCIO (Austria)
- APFTV (Portugal)
- VSLF (Switzerland)
- VTY/PVY (Finland)
- SVEFF (Sweden)

## Africa/Asia/Pacific

- APMF (Australia)\*
- CNCIA (China)\*
- IPA (India)\*
- JPMA (Japan)\*
- SAPMA (South Africa)\*
- NZPMA (New Zealand)\*

### APIC (Asia)

- TPMA (Thailand)
- SLPMA (Sri Lanka)
- SPMA (Singapore)
- PPMA (Pakistan)
- IPMA (Indonesia)
- MPMA (Malaysia)
- KPMA (Korea)
- PAPM (Philippines)



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# Introduction to IPPIC

- Global Issue Management for IPPIC
  - Lead Paint Alliance (LPA, formerly the Global Alliance to Eliminate Lead Paint, or GAELP)
  - Sustainability
  - United Nations (UN) Transport of Dangerous Goods (TDG)
  - UN Globally Harmonized System for the Classification and Labelling of Chemicals (GHS)
  - Nanotechnology
  - International Agency for the Research on Cancer (IARC)
  - Marine Coatings Issues
- Biannual Coatings Summit and Global Marine Coatings Forum
- Sponsors of the Global Paint and Coatings Industry Market Analysis



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# IPPIC Resolution on Restricting Use of Lead in Paint (2008)

*“IPPIC supports the long-standing effectiveness of lead-use restrictions that are already in place in certain jurisdictions and recommends their widespread adoption by authorities not currently regulating the use of lead in paint and printing ink.*

*Such restrictions may be accomplished through specific legislation or regulation, formal voluntary agreements, or by other means that ensure widespread and verifiable compliance.”*



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# IPPIC's Commitment to LPA

- Increase industry understanding of the potential human health and environmental risks associated with continued use of lead in paint
- Reinforce the technical reformulation requirements that:
  - Allow for compliance with (applicable) lead use restrictions in paint
  - Provide for alternative products that meet performance requirements
- Establish a “level playing field” for manufacturers by actively engaging governments (and their associated regulatory agencies or official agents) in the development and enforcement of lead use restrictions



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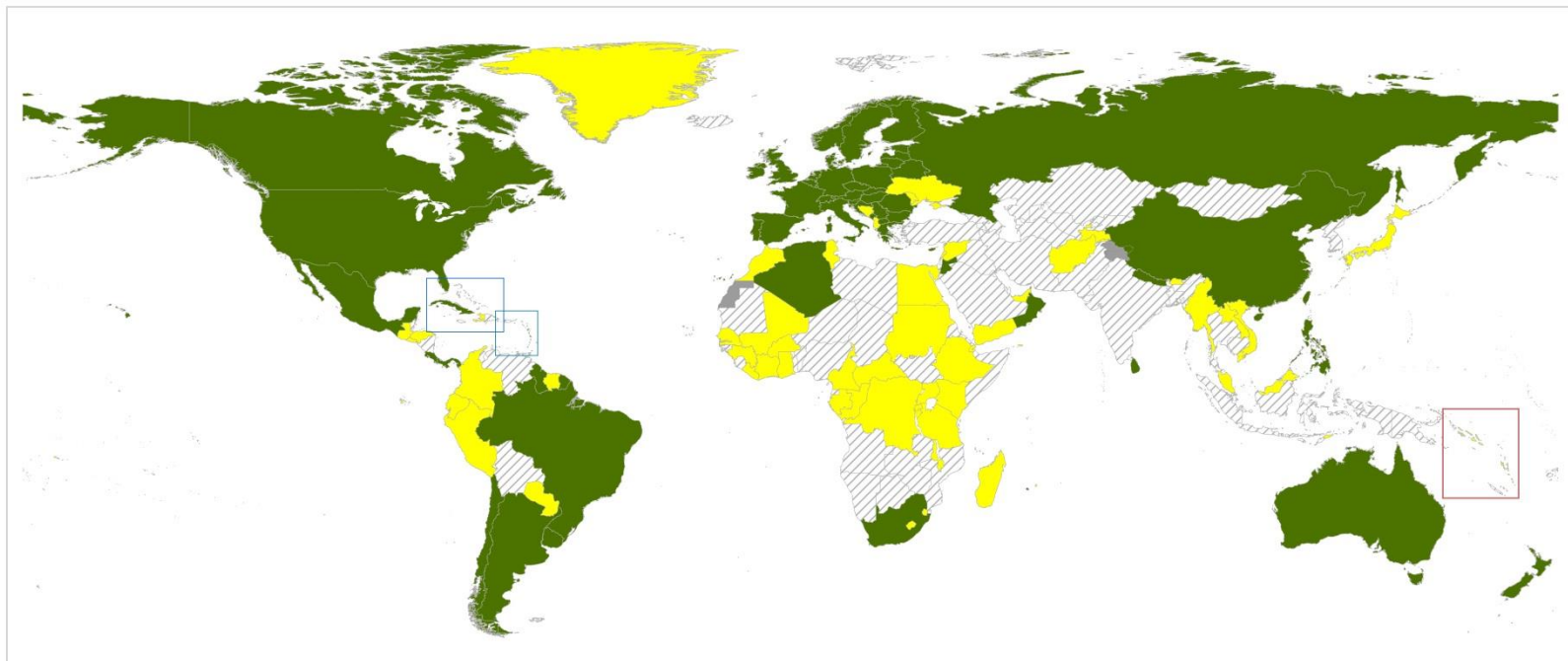
# Industry Conformance with Existing Legal Requirements

- Historical evolution of lead restrictions has tracked with “awareness” of the problem:
  - Ingestion of “paint chips” by children
    - Lead dust from “deferred maintenance”
  - Worker exposure to lead
    - Occupational safety and health considerations
  - Environmental impacts
    - Air pollution control (i.e. structural steel painting)
    - Waste management



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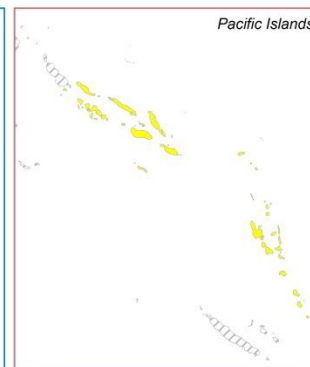
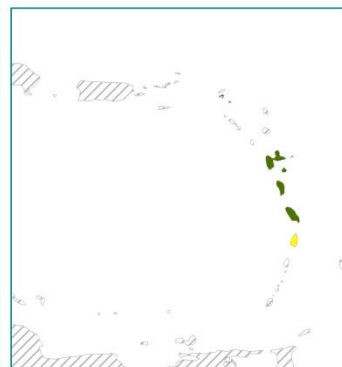
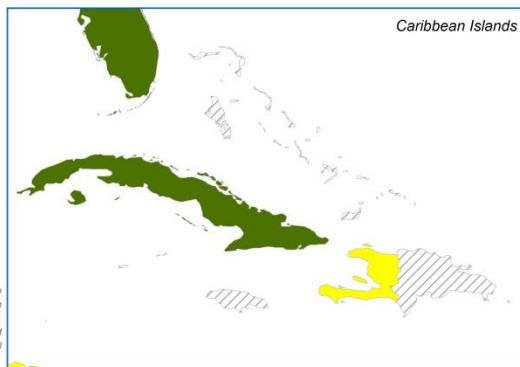


**Countries with legally binding controls**

- Legally binding controls
- No legally binding controls
- No data
- Not applicable

Data Source: Governments  
 Admin. Boundaries: World Health Organization.  
 Map Production: Public Health, Social and Environmental Determinants of Health, WHO

Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



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# Decorative Paints

## Conformance with Existing Legal Requirements

- From IPPIC Global Market Analysis – Global TOTAL decorative paint production is 20 billion liters annually
  - Europe produces 31% of the global total
  - North America produces 23% of the global total
  - Asia Pacific produces 30% of the global total
    - 20% of this production in Asia Pacific is in “unregulated” countries
  - Latin America produces 9% of the global total
    - 33% of this production is in “unregulated” countries
  - Rest of the World (ROW) produces 7% of the global total
    - 28% of this production is in “unregulated” countries
  - **SUMMARY – 11% of global production of decorative paints is done in countries that do not regulate the use of lead**



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# Decorative Paints

## Conformance with Existing Legal Requirements

- While 11% of the global production of decorative paints is done in countries where lead use is not regulated ... ***this does not mean that all of this production contains lead:***
  - Typically, more than half of this production is “waterborne” paint, **with no intentionally added lead content**
  - A large portion of the remaining production is “oil paint”, where lead ***may*** continue to be used
  - Available studies indicate that roughly 2/3 of brands of paint sampled contained lead in concentrations above 600 ppm
    - NOTE: In these studies, sample selection was done specifically to test certain colors of decorative oil paint known to have a high potential for showing added lead content. Such sampling is not representative of the total decorative paint market.



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# Decorative Paints

## Conformance with Existing Legal Requirements

- Consequently, while it is difficult to precisely estimate the volume of lead-containing decorative paint that continues to be manufactured and used, several important points can be made from the available data:
  - **Globally most (estimated at more than 95%) decorative paint production does not contain lead**
  - While **lead-containing paints likely comprise less than 5% of the global production**, they are significantly more likely to be found in the “unregulated” countries



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# Decorative Paints

## Conformance with Existing Legal Requirements

- **Bottom Line**
  - IPPIC and its member associations support restrictions on lead in decorative paints
    - Governments with established restrictions have largely eliminated lead use in 95% of global decorative paint production
  - *Globally*, decorative paints without added lead are widely available
    - Continued lead use in decorative paints is primarily centered on production done by **Small and Medium-sized Enterprises (SME's)**
  - Reformulation of decorative paints is feasible to eliminate lead use
    - Technical and cost impacts are manageable



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# Technical Feasibility to Reformulate

- **Lead pigments**

- **Primary pigments** (for “hiding” the surface) in the past included the use of LEAD CARBONATE (“white lead”), but this is an antiquated technology. There are many non-lead substitutes in wide use globally. **FEASIBLE TO REFORMULATE**
- **Color pigments** (generally yellow, orange, red and green colors) containing lead compounds can be substituted with non-lead metallic and organic pigments. Such substitutes are widely available, but at some increased cost to manufacturers. **FEASIBLE TO REFORMULATE**
- **Corrosion control pigments** for **industrial paints**, such as LEAD CHROMATE are *still in widespread global use*, but only in concert with a “lead safety net” of worker protection and environmental controls. Non-lead alternatives are widely available, but must meet key performance criteria for certain end uses (a customer-driven requirement). **FEASIBLE TO REFORMULATE, but with constraints**



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# Technical Feasibility to Reformulate

- **Lead driers** – used to accelerate the “set-up” (drying) of solvent-based paints, such as LEAD NAPHTHENATE. Non-lead substitutes are widely available, generally other organometallic compounds. **FEASIBLE TO REFORMULATE**
- **Lead-containing additives** - include catalysts and other specific compounds that impart special properties to the paint or components of the paint (i.e. resin). Non-lead substitutes are widely available. **FEASIBLE TO REFORMULATE**



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# Technical Feasibility

- **Lead compounds referenced by the LPA**

- **PIGMENTS**

- **PRIMARY** - Lead carbonate (white lead; 1319-46-6);
    - **COLOR/CORROSION** - Lead monoxide (1317-36-8), Lead chromate (7758-97-6), Lead sulfate (7446-14-2), Lead molybdate (10190-55-3), Lead sulfo-chromate yellow (1344-37-2); Lead chromate molybdate sulfate red (12656-85-8)

- **DRIERS**

- Lead octanoate (7319-86-0);
    - Lead 2-ethylhexanoate (301-08-6);
    - Lead naphthenate (61790-14-5)

- **OTHER ADDITIVES**

- Lead chromate oxide (18454-12-1);
    - Lead oxide (1314-41-6);
    - Lead nitrate (10099-74-8);
    - Lead peroxide (1309-60-0);
    - Tri-lead bis(carbonate) dihydroxide (1319-46-6)



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# Elements of Lead Hazard Control: Industry Emphasis

- Establish controls based on **risk to vulnerable populations**
  - Children
  - Workers
- Understand **critical industrial coatings performance requirements** (i.e. corrosion protection) *and*
- Evaluate the **adequacy of the existing lead “safety net”** (to reduce risk of worker health and environmental impacts)



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# Elements of Lead Hazard Control: Industry Emphasis

- Focus on “intentionally added” lead, and **acknowledge residual contamination** concerns
  - Soil derived materials often have some background level of lead (**residual lead contamination**) which cannot be eliminated and is NOT INTENTIONALLY ADDED
  - Globally, there are different quantitative limits for residual lead contamination in paint
  - Local (i.e. national) standards should continue to apply
    - But residual limits should be kept as low as possible



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# Current Industry Collaboration with Governments

- South Africa
- Philippines
- Vietnam
- Thailand
- Japan
- Taiwan
- South Korea
- New Zealand

NOTE: Specific details of these collaborative efforts may be obtained from the national governments or by contacting IPPIC ([secretariat@ippic.org](mailto:secretariat@ippic.org)) for further information



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# Path Forward

## Continued Industry Contributions

- IPPIC and industry contributors will be advancing several projects in 2015 and beyond
  - A new “framework” document to describe how governments and industry can work constructively to establish lead paint restrictions. This document will provide details on technology transfer, effective communications, standard-setting, and enforcement
  - Regional and national support for “Clean Technology” initiatives (advancing lead-free paint) in Latin America and China
  - Assistance in identifying available, published market data on lead pigment usage in order to help focus government efforts on lead-use restrictions



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# Point of Contact

- International Paint and Printing Ink Council, Inc. (IPPIC)  
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E-mail: [secretariat@paint.org](mailto:secretariat@paint.org)
- PREPARED: August 2015

## References

- Originally presented at the GAELP Workshop and Third Meeting in New Delhi, September 2014
- Updated and expanded for inclusion in the UNEP “Toolbox” for Governments. August 2015



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