

Lead and the Consumer Product Safety Improvement Act (CPSIA) of 2008



These comments are those of the CPSC staff, have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission

Section 101 Children's Products Containing Lead; Lead Paint Rule

- Seeks to lower the amount of lead in children's products to the lowest level that technology will allow
- Limits on the amount of lead are phased in over three years (600 ppm to 300 ppm to 100 ppm unless not technologically feasible to have the lower limit)
- After one year, paint and other surface coatings for consumer use must be reduced from 0.06% to 0.009%

What Products are Included in Lead Limits?

- Children's products are subject to strict new limits for both lead paint and lead content:
 - 16 CFR 1303 Existing Lead Paint Limit
 - CPSIA New Lead Paint Limit
 - CPSIA New Lead Content Limits

Existing Lead Paint Limit

- Lead paint and similar surface-coating materials cannot contain more than 600 ppm of the total weight of the nonvolatile content of the paint or the weight of the dried paint film (“lead containing paint”)
- Paint does not include printing inks or those materials which are actually bonded to the substrate, such as by electroplating or ceramic glazing

Existing Lead Paint Limit

- Applies to:
 - Paint and similar surface coating materials
 - Toys and other articles intended for use by children
 - Certain furniture articles

What Furniture Articles Are Covered?

- 16 CFR 1303 includes, but is not limited to, beds, bookcases, chairs, chests, tables, dressers, desks, pianos, console TVs and sofas

CPSIA New Lead Paint Limit

- Limit for lead paint reduced from 600 ppm to 90 ppm
- Effective on August 14, 2009
- Periodic review and possible revision no less than every 5 years

Question

- Does the new lower lead paint limit apply to all products or only to children's articles?

16 CFR 1303 continues to apply in all respects except for the reduction in lead limit to 90ppm: it applies to paint and surface-coating materials, children's toys and other articles intended for use by children and furniture articles which are not specifically excluded.

What Furniture Articles are Excluded?

- 16 CFR 1303 Excludes
 - **Appliances** such as ranges, refrigerators, and dishwashers
 - **Fixtures** such as bathroom fixtures, built in cabinets, chandeliers, windows and doors
 - **Household items** such as window shades, wall hangings and draperies

CPSIA New Lead Content Limits

- Any children's product that contains more than the established limits shall be treated as a banned hazardous substance:
 - 600 ppm limit – effective February 10, 2009
 - 300 ppm limit – effective August 14, 2009
 - 100 ppm limit (if technologically feasible) – effective August 14, 2011

New Lead Limit Continued

- Periodic limit review & revision downward if technologically feasible
- Technological Feasibility:
 - If a product that complies is available in the product category
 - Technology to comply is commercially available
 - Industry will be capable of achieving the limit by the effective date
 - Alternative practices would allow compliance

Definition of “Children’s Product”

- Children’s Product:
“consumer product designed or intended primarily for children 12 years of age or younger”

Children's Product Factors

- “A statement by a manufacturer about the intended use of such product, including a label on such product if such statement is reasonable.
- Whether the product is represented in its packaging, display, promotion, or advertising as appropriate for use by children 12 years of age or younger.
- Whether the product is commonly recognized by consumers as being intended for use by a child 12 years of age or younger.
- The Age Determination Guidelines issued by the Commission staff in September 2002, and any successor to such guidelines.”

Lead Content Exclusions

- If the Commission, after notice and a hearing, finds that the product does not result in any lead absorption and has no adverse health consequences;
- If a component part containing lead is inaccessible under ordinary use and abuse conditions as determined by the Commission;
- If the component part falls within a category of electronic devices the Commission determines by rule do not need to comply with the lead standard because it is not technologically feasible.

Exclusion Rules

- Inaccessibility: Guidance rule on product components or classes of components considered inaccessible will be issued by August 2009

Exclusions Continued

- Inaccessible component part: any part of a “children’s product that is not accessible to a child through normal and reasonable foreseeable use and abuse of such product as determined by the Commission”
- “A component part is not accessible if such component part is not physically exposed by reason of a sealed covering or casing and does not become physically exposed through normal and reasonable foreseeable use and abuse”

Exclusions Continued

- Paint, coatings, or electroplating may not be considered a barrier rendering lead in the substrate inaccessible

Exclusions Continued

- **Certain Electronic Devices:**
If CPSC determines that it is not technologically feasible for certain electronic devices (including devices with batteries) to meet lead limits, it will by regulation issue:

Exclusions Continued

- Requirements to eliminate or reduce potential exposure and accessibility; and
- A schedule for achieving full compliance, unless the Commission determines full compliance is not possible on a set schedule
- Periodic review of regulation will take place no less than every 5 years

Timetable

Date	Lead Content	Lead Paint
November 6, 2008	FHSA Regulated	600 ppm
February 10, 2009	600 ppm	600 ppm
August 14, 2009	300 ppm	90 ppm

Question

- Do the lead content limits apply to all consumer products or only to children's products?

The lead content limits apply to products designed or intended primarily for children 12 years or younger.

Component Part

- What is a part for purposes of calculating the lead content?

“The lead limit is 600 ppm total lead content by weight for *any part* of the product.” (Example: Children’s Jewelry)

Question

- If a product complies with the lead paint limit, is it in compliance with the lead content limit?

Each product must be in compliance with *both* the lead paint limit and lead content limit.

Materials such as electroplating and ceramic glazing that become part of the substrate generally must comply with lead content limit.

Question

- If my children's product is not used for "play" and has no "play value", does it need to comply with the lead content limits?

Under Section 101, any children's product that contains more than the established limits shall be treated as a banned hazardous substance.

"Play" or "play value" is not a factor.

When is “Play Value” a Factor?

- CPSIA Section 108, pertaining to phthalates, applies to any children’s toy or child care article: “children’s toy” defined as designed or intended for child 12 years of age or younger for use by the child *when the child plays*.
- ASTM F963-07 Toy Safety Standard excludes **art materials** in which the material itself is not primarily of “play value”

Lead and the Consumer Product Safety Improvement Act (CPSIA) of 2008 (Part 2)



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Evaluating Painted Consumer Products for Lead

- Total Lead Content in Paint
- Paint defined in 16 CFR 1303.2 (b) (1)
- CPSC Method:
<http://www.cpsc.gov/businfo/leadsop.pdf>
 - Remove paint from substrate
 - Digest in hot, concentrated Nitric Acid
 - Analyze by Inductively Coupled Plasma
 - Differs from extraction methods for soluble lead content

Acid Digestion of Paint to Determine Lead Concentration



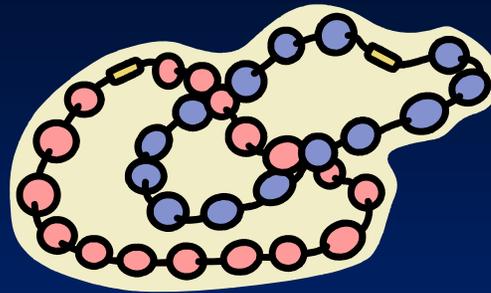
Testing Issues for Lead in Paint

- Compositing – see FAQ (<http://www.cpsc.gov/about/cpsia/faq/faq.pdf>)
 - Combining different paints from one or more samples may fail to detect excessive lead in one individual paint. Not acceptable.
 - Combining like paint from several like parts to obtain a sufficient sample size may be necessary and appropriate to obtain valid analytical results.
 - Alternate methods allowed in some cases for small quantity of paint.

Testing Issues for Lead in Paint

- Small quantities of paint - see FAQ (<http://www.cpsc.gov/about/cpsia/faq/faq.pdf>)
 - CPSIA allows for alternate methods if product bears only a small quantity of paint
 - Small quantity of paint: <10 mg or <1 square centimeter
 - Alternate method shall not permit more than 2 μg (micrograms) of lead in the small quantity of paint

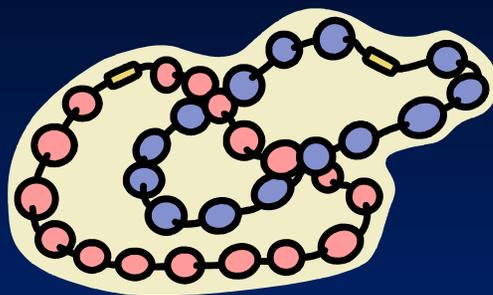
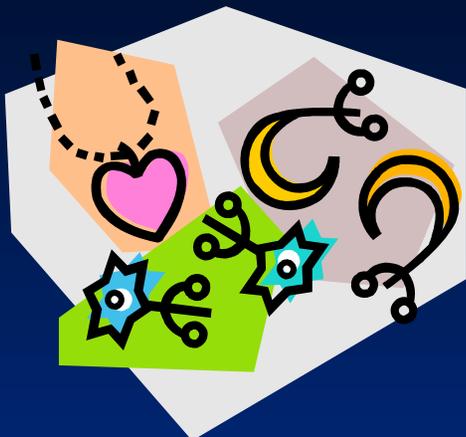
Total Lead Content In Children's Products



“The lead limit...is 600 ppm total lead content by weight for *any part* of the product.”

- February 10, 2009: 600ppm lead content
- August 14, 2009: 300ppm lead content
- August 14, 2011: 100ppm (if feasible)

Determining Total Lead Content In Any Part of Children's Products



- Total Lead Content - Not soluble lead
 - Mill or grind each part, digest in hot, concentrated acids
 - Analyze by ICP
- Methods for various materials will be issued on CPSC website
- Metal Jewelry – Part I, Screening Test for Total Pb (NOT Part II, Acid Extraction Test)

<http://www.cpsc.gov/businfo/pbjeweltest.pdf>

X-ray Fluorescence (XRF) Screening For Lead

- May be relied on for small areas of paint subject to limitations
- Study underway to evaluate effectiveness, precision, and reliability of XRF for measuring lead in paint to determine compliance with part 1303 of title 16, Code of Federal Regulations, as modified by the CPSIA
- Thin vs. thick: X-ray penetration into substrate
- ASTM F2617-08 for homogeneous, thick plastic with limitations. Repeatability issues.

Lead and the Consumer Product Safety Improvement Act (CPSIA) of 2008 (Part 3)



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Exclusions from Lead Limits

- Certain materials or products

May be excluded by regulation if CPSC, after notice and hearing, finds it will not result in absorption of any lead taking into account normal and reasonably foreseeable use and abuse by child, nor have any other adverse impact on health or safety

Exclusions continued

- Inaccessible component parts
 - In general, CPSC may exclude component parts if such parts are not accessible to a child through normal and reasonably foreseeable use and abuse.
 - Not accessible if: 1) not physically exposed by reason of a sealed covering or casing, and 2) does not become exposed through reasonably foreseeable use and abuse

Exclusions continued

- Paint, coatings, or electroplating may not be considered a barrier rendering lead in the substrate inaccessible
- The Commission will issue a **guidance rule** on product components or classes of components that will be considered inaccessible by 1 year (August 14, 2009)

Exclusions continued

- Certain electronic devices

- If CPSC determines it is not technologically feasible for certain electronic devices (including devices with batteries) to meet lead limits, it will by **regulation** issue:

- 1) requirements to eliminate or reduce potential exposure and accessibility; and

- 2) a schedule for achieving full compliance, unless the Commission determines full compliance is not possible on a set schedule

“Accessibility”

- Previously, under FHSA, lead-containing products assessed based on possible exposure to lead

accessibility = behavior + extractability

- Under CPSIA, products assessed based on lead content

accessibility = physical contact with component

Staff Information Needs

Children's Products & Electronic Devices

- Which products or components have lead content more than 600 ppm (or 300 ppm or 100 ppm)?
- Which lead-containing components are inaccessible?

Information Needs Continued

- What defines inaccessibility for products for children within different age groups through age 12 years?
- What test methods may be used to assess inaccessibility?

Information Needs Continued

- What products already comply with other standards or regulation for lead content (e.g., EU RoHS for electronic devices)?

Electronic Devices

- Is it technologically feasible to meet the lead content limit?