Lead in Surface Coatings in Testing Programs

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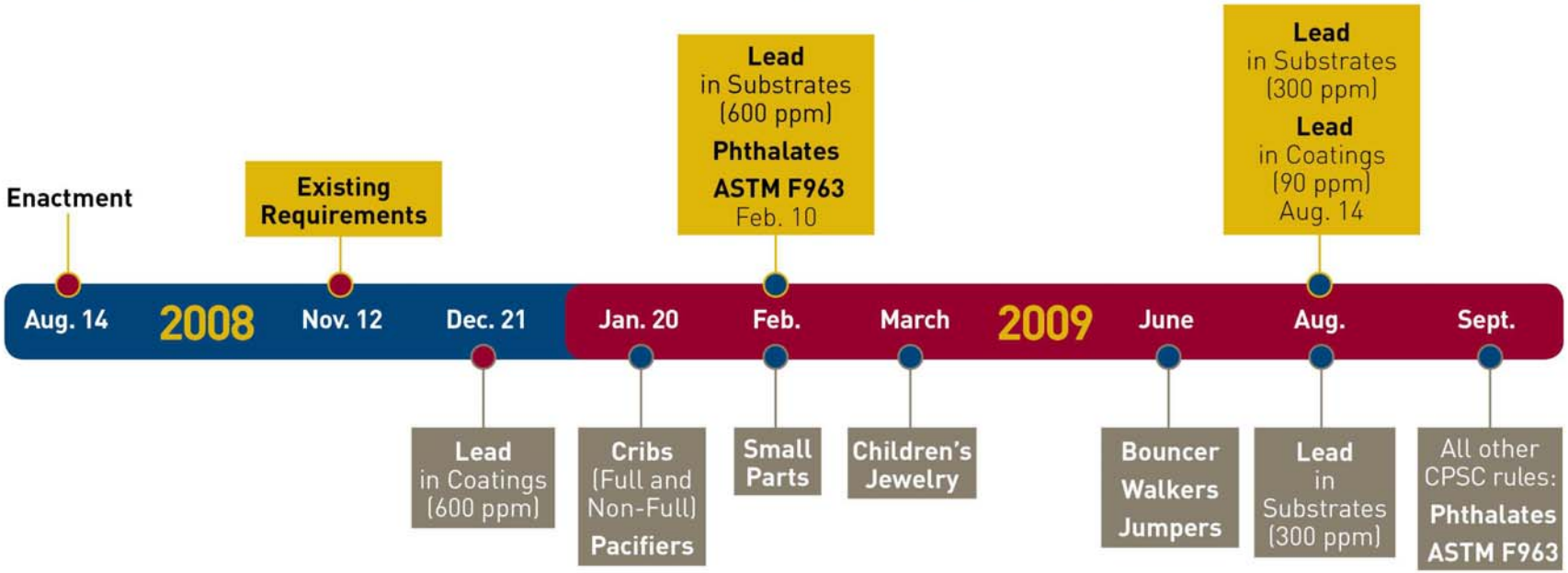
Points for today's discussion

- Supply chain control and compliance to CPSA and CPSIA
- Current Industry approaches
- Discussion on Lead in surface coating

Consumer Product Safety Improvement Act (CPSIA)
Key Reporting Milestones

Manufacturers certify compliance to these requirements for products manufactured on/after the dates listed below



Manufacturer's Certificate (GCC) – All Products

3rd Party Report Requirements – Children's Products

Plus these with third party reports for children's products manufactured on/after these dates.

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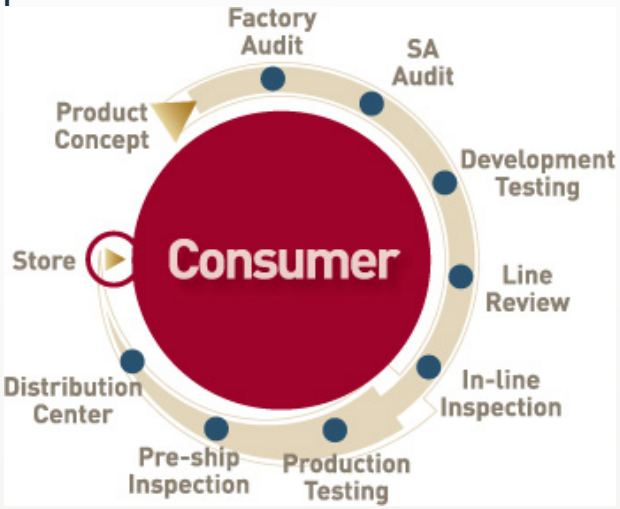
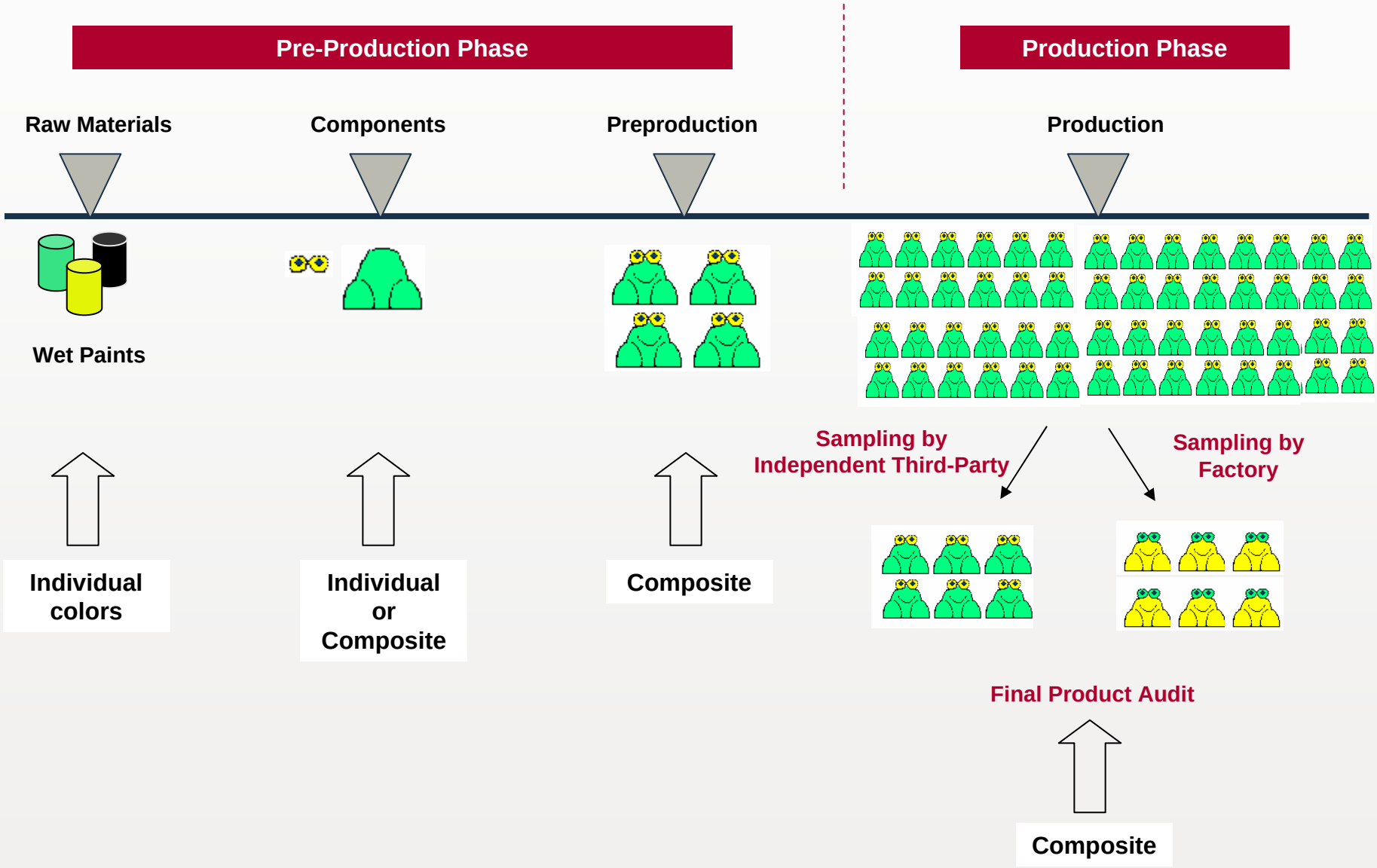
Supply Chain Management

- Systematic check and balances throughout the production process
- They can include
  - Design Evaluations
  - Factory Audits
  - Testing
    - Raw Material and Component Part Testing
    - Pre-production Testing
    - Production or Final Audit Testing
    - Mandatory Retesting
    - Random Retail Testing
  - Inspections
  - Sample Collection
- The above supply chain management has proven to produce higher rates of product compliance



Quality Assurance Process – Industry Approach



Screening using a Compositing Approach

Example: Toy with 3 coatings

Individual Lead Results (Reference)

700 ppm 10 ppm 10 ppm

Composite Lead Screening Approach

 **=** 240 ppm

Adjusted Limit: Divide individual limit by number of colors composited:

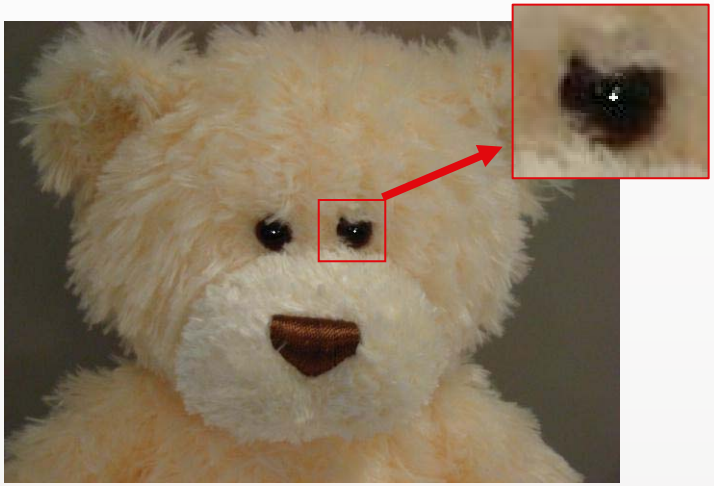
600 ppm/3 colors = **200 ppm/color**

***Acceptance*:** Composite result must be below adjusted limit

Assessment: Screening FAILS → Must test individual colors

Challenges of Small Painted Areas

Example: Toy with white coating (eye) less than 10 mg



Possible Approaches

***No-Compositing Approach*:**

- ❑ Test regardless of number of samples required
- ❑ Cons: Extremely Large Sample Sizes Needed
- ❑ Cons: Supply chain disruption, time-to-market delay

No-Compositing Toy Standard Approach (ISO 8124):

- ❑ Less than 10 mg, no test
- ❑ Cons: No Data (during final product audit)

Compositing Approach 1:

- ❑ Composite with other colors, based on 1 sample
- ❑ Pros: Simulates Hazard Exposure to Child, Consistent with Toy Standard Approach

***Compositing Approach 2*:**

- ❑ Composite with other colors, based on 12 samples max
- ❑ Pros: Sets a Reasonable Sample Sizes, Greater Detection Capability

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