Age Determination for Hazard Identification

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Age Grading
- Good age grading practices are important to ensure products are appropriate and safe at particular stages of child development.
- Age labeling is intended to provide guidance to consumers when selecting products for children.
- The physical and mental ability of the child to play with and understand the product plays a large role in age grading a product.
- The product or toy must be safe for the intended user; a primary consideration should be potential choking or asphyxiation hazards associated with small parts.

Relevant Definitions
- Consumer Product - any article produced or distributed (i) for sale to a consumer for use in or around a residence, school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer (General Use)
- Children’s Product - a product designed or intended primarily for use by children 12 years of age or younger
- Children’s Toy - a children’s product designed or intended by the manufacturer for use by child in play (ASTM PPAI goes up to 14 years of age)
CPSIA Factors for Children’s Product

• Stated intent of the manufacturer if not unreasonable.
• Marketing, advertising and promotion
• Common recognition of appropriate age group by consumers
• The Age Determination Guidelines issued by the Commission staff (http://www.cpsc.gov/BUSINFO/adg.pdf)

Current Guidelines

• AGE DETERMINATION GUIDELINES: Relating Children’s Ages To Toy Characteristics and Play Behavior
• Published in September 2002
• 7 main toy categories, 21 subcategories
• 10 age groups - cognitive abilities, motor skills, visual preferences, social interests
• 14 characteristics of toys - size, shape, number of parts, interlocking versus loose parts, materials, motor skills required, color/contrast, cause and effect, sensory elements, level of realism/detail, licensing, classic, robotic/smart features, educational

Proposed Guidelines

• CPSC GUIDELINES FOR DETERMINING AGE APPROPRIATENESS OF TOYS
• Draft issued March 2018
• ASTM/ICPSO Roundtable held 4/13/18
• Comment period extended to 7/31/18
• Not finalized to date
### Proposed Guidelines: Process

- Interagency agreement between CPSC and Child and Family Research (NICHD/CFR) within National Institute of Child Health and Human Development
- Literature search and research with 243 children ages 1-8 years and their parents
- Four age brackets: 1-1.5 years (12-18 months); 1.6-2 years (19-35 months); 3-5 years (36-71 months); and 6-8 years (72-107 months)

### Proposed Guidelines: Summary

- New toy category - Technology Play
- Same 10 age groups and 14 toy characteristics
- Changes include:
  - Children’s basic abilities and preferences
  - New toys added
  - Age group changes to existing toys
  - Other children’s products and child care articles

### 74 New Toys Added (Proposed)

- **Exploratory & Practice Play** – wooden bead maze cube (1+), foam clay (3+),…
- **Building Play** – suction cup building pieces (3+), robotic magnetic building cubes (6+),…
- **Pretend & Role Play** – play touchscreen phone (1+), animatronic interactive animal (3+),…
- **Game & Activity Play** – magnetic puzzle (2+), egg puzzle (1+), light/sound pattern pad (6+),…
- **Sports, Recreational & Outdoor Play** – spiked light-up bat (11m+), bean bag toss (3+),…
- **Media Play** – light-up gel pad w/ stylus (1+),…
- **Educational & Academic Play** – science kit experiment (3+), alphabet magnets (3+),…
- **Technology Play** – karaoke machine (3+),…
New Toys with different age grade (Proposed)

- 15 toys added to the Proposed Guidelines (approx. 20%) have a recommended age that differs from the manufacturer’s age label
  - 13 of the toys have a recommended age group younger than the manufacturer’s age label
  - 2 of the toys have a recommended age group older than the manufacturer’s age label

Existing Toys with different age grade (Proposed)

- 8 toys currently in Age Determination Guidelines have recommended changes to the age group
  - 5 of the toys have an increased recommended age change (nesting cup, play vacuum, baby bottles w/taux liquid, crawl-through tunnel, microscope)
  - 3 of the toys have a decreased recommended age change (interlocking bricks w/figurines, 3D maze ball, finger paint)

Test Criteria based on age

<table>
<thead>
<tr>
<th>Age</th>
<th>Torque</th>
<th>Tension</th>
<th>Drop</th>
<th>Compression</th>
<th>Bills</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-18 months</td>
<td>2 in-lbs</td>
<td>10 lbs</td>
<td>10 drops/4.5 feet</td>
<td>20 lbs</td>
<td>25 lbs.</td>
</tr>
<tr>
<td>18-36 months</td>
<td>3 in-lbs</td>
<td>15 lbs</td>
<td>4 drops/3 feet</td>
<td>25 lbs</td>
<td>50 lbs.</td>
</tr>
<tr>
<td>36-96 months</td>
<td>4 in-lbs</td>
<td>15 lbs</td>
<td>4 drops/3 feet</td>
<td>30 lbs</td>
<td>100 lbs. (mouth toy only)</td>
</tr>
</tbody>
</table>
Small Parts Regulation 16 CFR 1501

- Small parts not allowed, before and after testing, for toys intended for children under 3 years

Key Takeaways from 4/13/18 conference

- “Think outside the box when using the guidelines. Always look at who/when/how the intended use is of a toy, but also consider who many find play value with the product”.
- Kids are exposed to more at a lot earlier age than what the current guidelines mirror. So while we should use these new updated guidelines as a reference and a starting point we should also do research online and ultimately think like a child: “would a child of __ age find functional play value in this toy”.

Additional Resources

- ASTM F963, Annex A1 – Age Grading Guidelines
- Health Canada, Toys: Age Classification Guidelines
- CR 14379 CEN Classification of toys Guidelines
- ISO/TR 8124-8: Safety of Toys – Part 8: Age Determination Guidelines
- CHILDATA: The Handbook of Child Measurements and Capabilities (anthropometry)
- Published studies on child development
- Observational Research with children
- Focus Groups with parents
Promotional Products

Factors to Consider
- Size and Shape
- Materials Used
- Number of Parts
- Motor Skills Required
- Classic Product
- Colors
- Cause & Effect
- Sensory Elements
- Level of Realism/Detail
- Licensing/Theme

Size and Shape
- Dimensions
- Ability to use properly
Materials Used

- Soft plastic, foam, plush, wood
- Metal, glass, ceramic

Number of Parts

- Physical ability
- Cognitive ability

Motor Skills required

- Fine motor skills
- Gross motor skills
Classic Product
• Maintains appeal over generations

Color
• Bright primary
• Natural or dull

Cause & Effect
• Product response – lights, sounds, movement
Sensory Elements

- Appeal to any of the five senses
- Lights, sounds, texture, smell, taste

Level of Realism & Detail

- Cartoonish vs. real features
- Child vs. adult qualities

Licensing / Theme

- Ties to outside influences, primarily media
- Contain a licensed characteristic
Considerations for Promotional Products

- Products are often intended for use by adults, given out at trade shows and workplaces, but end up in the hands of children
- Consider various factors to determine whether product could be appealing to children
- Determine who is responsible to ensure regulatory compliance based on product classification

Hazard Identification

- Regulatory compliance is a minimum requirement
- Hazard identification and risk management
- Ensure continued compliance
- Safety-related recalls are still occurring

Product Recalls - Children

- Regulatory compliance does not always equal product safety
Product Recalls - Adult

- Design hazards cause recalls of adult or general use items as well

Foreseeable Use and Misuse

- Instructions
- Product look and function
- Similarity to other products

Hazard Identification Resources

- Global & Voluntary Standards
- Existing Data
- Behavioral Task Analysis
- Research
Review Global & Voluntary Standards

- Mandatory regulations and standards are minimum requirements
- Over half of all products recalled complied with mandatory standards!
- Voluntary standards address additional issues, including safety, quality and performance
- International standards vary

Analyze Existing Data - external

- Incident / Injury Data, including NEISS Data
- Government and NGO Publications and Reports
- CPSC & International Recalls
- Medical / Social sciences publications – NIH, HFES
- Anthropometric data – Childata, Adultdata, Older Adultdata, Strength Data for Design Safety
- SaferProducts.gov

Analyze Existing Data - internal

- Customer Service Feedback
- Complaints, associated follow-up
- Returns / Replacement parts / Repairs
- On-line product reviews
- Feed back safety-related issues to product designers and engineers
- Maintain central repository for incident reports and other customer feedback
Perform Behavioral Task Analysis
Identify steps associated with product use
- Assembly
- Intended use
- Foreseeable unintended use (misuse)
- Cleaning
- Troubleshooting
- Disassembly
- Storage

Conduct Research
- Behavioral observations
- Sensory panels
- Focus groups
- Survey research

Product safety resources
- CPSC: [www.cpsc.gov](http://www.cpsc.gov)
- QIMA: [www.qima.com](http://www.qima.com)
- Questions? AnneS@ppai.org
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**Automatically Entered Into A Raffle To Win A Bulova Watch**
One winner selected on Tuesday & one on Wednesday

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