



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.




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Relevant Definitions

- Consumer Product - any article produced or distributed (i) for sale to a consumer for use in or around a resident, 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 F963 goes up to 14 years of age)



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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>)




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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




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Proposed Guidelines

- CPSC GUIDELINES FOR DETERMINING AGE APPROPRIATENESS OF TOYS
- Draft issued March 2018
- ASTM/ICPHSO Roundtable held 4/13/18
- Comment period extended to 7/31/18
- Not finalized to date




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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)




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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




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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 (3+), egg puzzle (1+), light/sound pattern pad (6+)...
- Sports, Recreational & Outdoor Play – spiked light up balls (19m+), 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+)




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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




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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/faux liquid, crawl-through tunnel, microscope)
 - 3 of the toys have a decreased recommended age change (interlocking bricks w/figurines, 3D maze ball, finger paint)




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Test Criteria based on age

Age	Torque	Tension	Drop	Compression	Bite
0-18 months	2 in-lbs.	10 lbs.	10 drops/ 4.5 feet	20 lbs.	25 lbs.
18-36 months	3 in-lbs.	15 lbs.	4 drops/ 3 feet	25 lbs.	50 lbs.
36-96 months	4 in-lbs.	15 lbs.	4 drops/ 3 feet	30 lbs.	100 lbs. (mouth toy only)



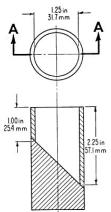
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Small Parts Regulation
16 CFR 1501

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

WARNING:
CHOKING HAZARD--Small parts.
Not for children under 3 yrs.



Section A-A
FIG 1--SMALL PARTS CYLINDER

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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".

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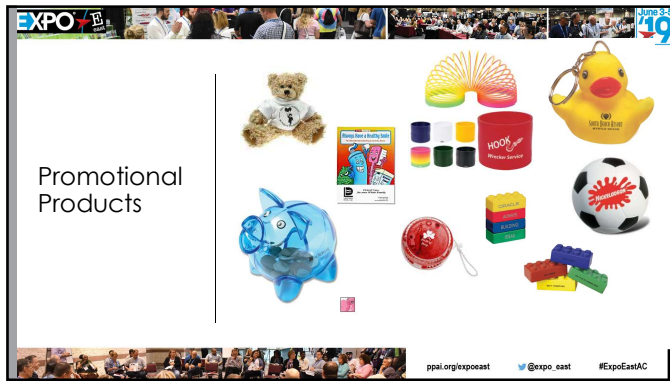
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Additional Resources

- 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

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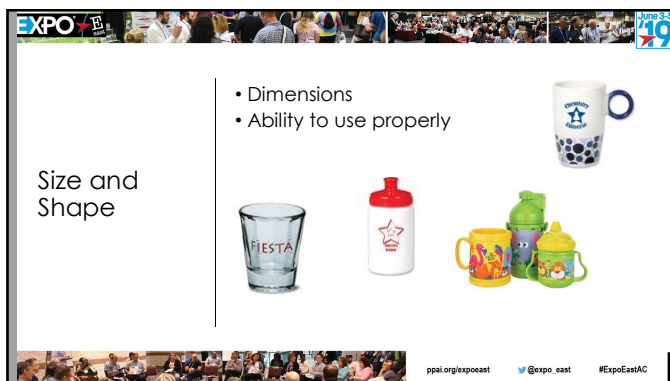
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Materials Used

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




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Number of Parts

- Physical ability
- Cognitive ability




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Motor Skills required

- Fine motor skills
- Gross motor skills



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Classic Product

- Maintains appeal over generations




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Color

- Bright primary
- Natural or dull




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Cause & Effect

- Product response – lights, sounds, movement




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Sensory Elements

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




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Level of Realism & Detail

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




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Licensing / Theme

- Ties to outside influences, primarily media
- Contain a licensed characteristic



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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

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Hazard Identification

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



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Product Recalls - Children

- Regulatory compliance does not always equal product safety



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Product Recalls - Adult

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




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Foreseeable Use and Misuse

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



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Hazard Identification Resources

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



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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




International Organization for Standardization

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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 – Childdata, Adultdata, Older Adultdata, Strength Data for Design Safety
- SaferProducts.gov



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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



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Perform Behavioral Task Analysis

Identify steps associated with product use

- Assembly
- Intended use
- Foreseeable unintended use (misuse)
- Cleaning
- Troubleshooting
- Disassembly
- Storage



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Conduct Research

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



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Product safety resources

- PPAI Corporate Responsibility:
 - <http://ppai.org/corporate-responsibility/>
- CPSC: www.cpsc.gov
- QIMA: www.qima.com
- Questions? AnneS@ppai.org

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BULOVA

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