



U. S. CONSUMER PRODUCT SAFETY COMMISSION  
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May 6, 2010

Mr. Paul Giampavolo  
Subcommittee Chairman  
ASTM Shopping Carts Subcommittee, F15.56  
Safe-Strap Co., Inc.  
105 West Dewey Avenue  
Building D Suite 410  
Wharton, NJ 07885

Dear Mr. Giampavolo:

Thank you for your letter requesting the U.S. Consumer Product Safety Commission (CPSC) Division of Human Factors staff to provide its opinion<sup>1</sup> regarding proposed changes to the warning label required by ASTM International, *Standard Consumer Safety Performance Specification for Shopping Carts* (ASTM F2372 - 04). The label currently required by ASTM F2372 - 04 is attached as Figure 1. The proposed changes include adding a message which warns against the use of personal infant carriers in shopping carts. Two example warnings, attached as Figures 2 and 3, were submitted for assessment. CPSC staff was also requested to comment on the inclusion of the proposed warning in a warning poster and/or a safe-use bulletin to be made available within retail stores. This is attached as Figure 4. Staff was further requested to comment on adding Spanish text to the warning. This is attached as Figure 5. The CPSC staff appreciates the opportunity to review and comment on these proposals.

The current warning label as required by ASTM F2372 - 04 is located on the seat of shopping carts. It addresses falls from shopping carts and tells consumers what to do to avoid the hazard. Incident data was one of the many important factors considered during its development. Data from actual incidents provided valuable information for determining which behaviors to warn against and how to do so. Staff considered the latest available data among other factors when assessing what safety messages to include in a label. CPSC staff estimates that an average of 20,332 children under age five were treated annually in U.S. hospital emergency departments for injuries involving shopping carts from 2003 to 2008 (O'Brien, 2009). The majority (82 percent) of the total injuries (121, 989) were falls from the shopping carts. Eighty-four percent of the injuries occurred to the head and/or face. The majority of the injuries involved one- and two-year-olds, which combined, accounted for 59 percent of the injuries. CPSC staff attempted to analyze the data by hazard pattern for child carrier or car seat involvement, but the resulting

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<sup>1</sup> These comments are those of the CPSC staff and have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

estimates were too small to be considered reliable. However, staff can provide the number of reports involving child carriers/car seats. They include 280 reports out of a total of 4,548 National Electronic Injury Surveillance System reports.

Based on the injury data, falls from shopping carts involving personal carriers occurred far less frequently than falls from carts without personal carriers. According to the labeling research, warning labels should focus on hazards that are more likely to occur, are more severe (Wogalter, 2006), and on hazard messages that may have the greatest impact (Edworthy and Adams, 1996). Warnings about low likely events may dilute the effectiveness of those more likely to occur. Although it is possible that infant carrier involvement may account for some of the more serious incidents, falls involving infant carriers may be less likely compared to falls without personal carriers. Further, messages warning against infant carrier use in shopping carts are likely to have the least impact and may reduce the arousal strength of warnings that warn of more likely risks (Edworthy and Adams, 1996). Therefore, staff does not believe that the proposal to include a message in the label, warning against the use of personal carriers in shopping carts, is appropriate. Safety messages related to less likely hazards are often addressed in other warning systems (Laughery and Hammond, 1999; and Wogalter, 2006). A poster of the type proposed may be useful to communicate such a risk.

CPSC staff has some concerns about the proposed poster. It has five pictorials/word messages (hereafter referred to as “signs”). Four of the signs (i.e., buckle-up the child, stay with the child, do not allow the child to ride in the basket, and do not allow the child to climb/hang on the cart), at a minimum, are required by ASTM F2372 - 04. The proposed sign related to personal infant carriers makes the fifth sign in the poster. Labeling research suggests that more than three or four signs may discourage a product user from attending to them (Laughery and Wogalter, 1997), and may reduce the salience of the more important signs. Limiting the signs to the three or four having highest priority is suggested. In this case, the first three signs mentioned above are those with higher priority since their risk messages best address the primary hazard (i.e., falls). The remaining two signs address hazards of lower priority. Since the proposed additional sign is related to personal infant carriers and the research suggests that up to four signs are appropriate for a poster, staff suggests the use of either one of the lower priority signs, but not both.

Additionally, the hazard and consequence statement beginning, “Your child can fall...” appears deemphasized between the large, bold type signal word, WARNING, and the highlighted age and weight limit recommendation statement. Users may not comply with the warning if the hazard/consequence statement which has motivational content does not stand out. Therefore, staff recommends that the age/weight limit statement be placed at the bottom of the poster and sufficient “white space” surround the hazard statement. This approach was also taken when developing the warning label that is now required in the ASTM standard.

Further, the sign is arranged on a page oriented vertically. This looks less visually appealing than if the sign were arranged on the page oriented horizontally. Therefore, staff recommends that the sign be arranged on a page oriented horizontally to improve the visual appearance and, hence, the readability of the sign.

Regarding the proposal to add Spanish text to the warning label, according to the 2000 U.S. Census, among the 262.4 million people aged 5 years and over, 47.0 million (18 percent) spoke a language other than English (Shin and Bruno, 2003). Most [28.1 million (60 percent)] spoke Spanish; and just over half of the 28.1 million spoke English “very well.”<sup>2</sup> Therefore, the population who spoke English less than “very well,” and who may have the most difficulty with English, could benefit from adding Spanish text to the label. There are, however, subgroups of the consumer population for shopping carts (and other products) that may suffer greater difficulties than others in comprehension. This may be based on a number of factors including literacy. The research on labeling and instructions is suggestive. Therefore, the overall benefit of adding Spanish to the label may be small considering that some who lack basic literacy in English may also lack basic literacy in Spanish.

Although the overall benefit of including Spanish text may be small, it may benefit those who are literate in Spanish, but there are negatives that should be considered. The space available for the primary language is likely to be reduced together with the print’s prominence and legibility (Leonard, Otani, and Wogalter, 1999). This may have a negative effect on the label’s ability to capture the user’s attention and on the user’s ability to read it. Also, considering that the available space is limited, the additional language may clutter the label which may prevent users from attending to it altogether. Further, adding another language may make users believe that the warning exaggerates the situation, making the warning less credible (Alves-Foss, 1996).

Despite the above, if Spanish text is included in the label, CPSC staff recommends that the Spanish version appear below the English language version. Staff also recommends that the Spanish text be smaller than the primary English language and that the two versions be easily distinguishable from one another - for example, by its typeface - and be separated by sufficient “white space.” These recommendations are based on research for multiple-language warning labels. Additionally, staff recommends that the precautionary messages, beginning with “ALWAYS”, etc., be left justified with a ragged right margin.

Once again, thank you for your request for Human Factors staff’s opinion. I hope these comments are helpful. If you have any questions or concerns, feel free to contact me at (301) 504-7695.

Sincerely,



Sharon R. White

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<sup>2</sup> Respondents who said they spoke English “Very well” were considered to have no difficulty with English. Those who indicated they spoke English “Well”, “Not well”, or “Not at all” were considered to have difficulty with English.

References

- Alves-Foss (1996). Multiple Languages in Warning Signs: How the Number of Languages and Presentation Layout Influence Perception of Hazard and Memory. Master's Thesis. Moscow, ID: College of Graduate Studies, University of Idaho.
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Figure 1. Label Required by ASTM F2372 - 04

<b>⚠ WARNING</b>		
<b>Your child can fall out of cart and suffer a serious head injury.</b>		
		
ALWAYS buckle-up child in cart seat and fasten securely.	STAY with your child at all times.	DO NOT allow child to ride in basket.
Cart seat for children ages 6 months to 48 months AND 15 lbs. UP TO 35 lbs. MAXIMUM		

Figure 2. Proposed Label 1

**⚠ WARNING**

**Your child can fall out of cart and suffer a serious head injury.**


 <p><b>ALWAYS</b> buckle-up child in cart seat and fasten securely.</p>	 <p><b>STAY</b> with your child at all times.</p>	 <p><b>DO NOT</b> allow child to ride in basket. <b>DO NOT</b> use your own personal infant carrier or car seat.</p>
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**Cart seat for children ages 6 months to 48 months AND 15 lbs. UP TO 35 lbs. MAXIMUM**

Figure 3. Proposed Label 2

**⚠ WARNING**

Your child can fall out of cart and suffer a serious head injury.

		
<b>ALWAYS</b> buckle-up child in cart seat and fasten securely.	<b>STAY</b> with your child at all times.	<b>DO NOT</b> allow child to ride in basket.

Cart seat for children ages 6 months to 48 months AND 15 lbs. UP TO 35 lbs. MAXIMUM  
**DO NOT** use your own personal infant carrier or car seat.

Figure 4. Proposed Poster

# **WARNING**

**Your child can fall out of cart and suffer a serious head injury.**

**Cart seat for children ages 6 months to 48 months AND 15 lbs.  
UP TO 35 lbs. MAXIMUM.**



**DO NOT allow child  
to climb or hang on cart**



**DO NOT allow child  
to ride in basket**



**ALWAYS buckle-up child in cart  
seat and fasten securely**



**STAY with your child at all times**



**DO NOT USE your own personal  
infant carrier or car seat**



Figure 5. Proposed Label with Spanish Text

# ⚠️ WARNING ⚠️ ADVERTENCIA ⚠️

Your child can fall out of cart and suffer a serious head injury.

Su niño se puede caer de el carrito y sufrir una herida seria en la cabeza.



ALWAYS buckle-up child  
in cart seat and fasten securely.

SIEMPRE sienta el niño en el asiento  
y abroche el cinturón de seguridad.

Cart seat for children ages 5 months to 46 months AND 15 lbs. up to 35 lbs. MAXIMUM  
Asiento diseñado para niños de edad de 5 meses a 46 meses Y 15 lbs. hasta un MAXIMO de 35 lbs.



STAY with your child  
at all times.

PERMANESCA con su niño  
en todo momento.

DO NOT allow child  
to ride in basket.

NO PERMITA que el niño pasee  
montado dentro de la canasta.

