Effects of the Implementation of the New GHS - Symbols

Example of the Situation in Germany

February 2014
Globally Harmonized System of Classification and Labeling of Chemicals

- internationally agreed-upon system for the classification and labeling of hazardous materials
- mandatory in Europe as of 1st of July 2015
- basically relevant for the building material industry and the chemical industry
  - every chemical has to be characterized and labeled before it is put on the market
- only bags with brown paper create a problem because the background of the pictogram has to be white
  - focus of this analysis is on brown bags for building materials and chemicals
**Approach of the Analysis**

**Description of the steps**

- Germany was taken as an example
- Considered were articles which are dedicated to building materials and chemicals
- The next step of the analysis is based on the paper
  - Only unbleached paper is relevant
- Bleached paper is not relevant, because there are only 2 colours to print
- Subsequently the affected articles were divided into the possible positions of the hazard note (on the bottom, on the main print, no hazard note)
- For these positions there are several solutions how to handle the hazard note signs, which is displayed on slide 5
Description of the percentages

- all proportions shown in the pie charts on page 4 are related to the previous figure
- on the bar charts in slide 4 there is also the relation of each pie chart to the total production volume
- percentages on slide 6 relate to the total production volume
- the percentage on slide 7 refers to the situation after changing all bags to the new GHS-symbol
Effects of the implementation of the new GHS-symbols

Key Figures

Distribution per filling good

- Building Material & Chemicals: 75%
- Other: 25%

Building Material & Chemicals

- Bleached paper: 70%
- Unbleached paper: 30%

Affected Articles with unbleached paper

- Open mouth: 5%
- HN not on the bottom: 25%
- HN on the Bottom: 70%

No issue because there are only 2 colors to print

Production volume

- 100%
- 70%
- 25%

*HN ... Hazard Note

Effects of the implementation of the new GHS-symbols
Key Figures

Affected Articles with unbl. paper

- HN on the Bottom 70%
- HN on the main print 12%
- without HN 13%
- Open mouth 5%

Not changed yet 50%
White Bottom Cap 25%
red, black, white on UB 15%
red, black on UB 10%
2 color 60%
more than 2 colors 40%

* HN …Hazard Note
Effects of the implementation of the new GHS-symbols
### Position of the Hazard Note - proportion of the production volume -

<table>
<thead>
<tr>
<th>Position of the Hazard Note</th>
<th>Proportion of total production volume*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hazard note on the bottom</strong></td>
<td></td>
</tr>
<tr>
<td>Changed to white bottom patch</td>
<td>4%</td>
</tr>
<tr>
<td>Red, black, white on brown bottom patch</td>
<td>2%</td>
</tr>
<tr>
<td>Red, black on brown bottom patch (just red and black) (not permitted)</td>
<td>1%</td>
</tr>
<tr>
<td>Currently not changed</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Hazard note not on the bottom</strong></td>
<td></td>
</tr>
<tr>
<td>2 colours main print -&gt; inline print on tuber possible</td>
<td>2%</td>
</tr>
</tbody>
</table>

* before change
Assumption:
Remaining articles will be changed with the same ratios as before

**Minor influence on production:**

<table>
<thead>
<tr>
<th>Solution</th>
<th>Proportion of total production volume after change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changed to white bottom patch</td>
<td>8%</td>
</tr>
<tr>
<td>2 colours on brown paper (just red and black) -&gt; not permitted</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Critical influence on production:**

<table>
<thead>
<tr>
<th>Solution</th>
<th>Proportion of total production volume after change</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 colours on brown paper</td>
<td>5%</td>
</tr>
<tr>
<td>2 colour main print becomes preprint with more than 2 colours</td>
<td>2%</td>
</tr>
</tbody>
</table>
Summary of the GHS-Change in Germany

Change to white bottom patch:
- Most cost effective solution

Change to 3-Colour-print (Preprint):
- Significantly higher cost compared to white bottom patch

Conclusion
- Basically the costs related (e.g. new stereos, costs for white bottom patch paper, additional preprinting cost) were paid by the customers
- Most of the customers, who have already changed the GHS-symbol, chose the white bottom patch solution which is providing a significant cost advantage compared to 3 colour print, therefore the additional preprint quantities could be limited.
Sample Pictures for the “3-Color-Solution”

White bottom patch
Sample Pictures for the “3-Color-Solution”

3 Colors on brown paper
Sample Pictures

2 Colors on brown paper **not authorised**