Safety of food packaging from a retailer’s perspective

Zurich 9th October 2014
Packaging is important
Packaging is important

- 530,000+ Colleagues
- 12 Countries
- 75 million Shopping trips every week
Packaging is a Cinderella discipline
Packaging: multiple roles

<table>
<thead>
<tr>
<th>Technical functions</th>
<th>Marketing functions</th>
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Packaging: multiple roles

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Engagement with the packaging supply chain
The packaging supply chain

Tesco

Supplier Supplier Supplier Supplier Supplier
Issues: Dilution

Tesco

Supplier

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Primary material

Machine

Primary material

Machine

Primary material

Machine

Primary material

Machine
Issues: Interfaces

Tesco

Commercial interface

Supplier
Supplier
Supplier
Supplier
Supplier
Supplier

Primary pack
Primary pack
Primary pack
Primary pack
Primary pack
Primary pack
Primary pack

Primary material
Primary material
Machine
Primary material
Machine
Primary material
Primary material
Machine
Issues: Interfaces

Tesco

Commercial interface

Supplier

Supplier

Supplier

Supplier

Supplier

Supplier

Scale and insight interface

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Primary pack

Scale and insight interface

Primary material

Primary material

Machine

Primary material

Machine

Primary material

Machine

Primary material

Machine
Issues: Scale

Tesco
Solution: Linking

Tesco

Food Academy

Supplier
Supplier
Supplier
Supplier
Supplier
Supplier

Primary pack
Primary pack
Primary pack
Primary pack
Primary pack
Primary pack
Primary pack

Primary material
Machine
Primary material
Machine
Primary material
Machine
Primary material
Machine

TescoFoodAcademy.com
Solution: Linking

Tesco

Food Academy

Supplier

Supplier

Supplier

Supplier

Supplier

Primary pack

Primary pack

Primary pack

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Primary pack

Primary pack

Primary pack

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Primary pack

Primary material

Machine

Primary material

Machine

Primary material

Machine

Primary material

Machine
Packaging is important
Packaging safety is a huge issue

Food contact
- Chemicals
- Taint and odour
- Foreign bodies

Injuries
- Cuts and lacerations
- Burns and scolds
- Allergens

Child safety
- EN71
- Physical properties
- Flammability
- Heavy metals
Packaging safety is a huge issue: Accessibility

- A four-year-old child and a 74-year-old senior have similar grip strengths.
- A typical male loses 25% of his maximum grip strength by the time he reaches his mid-50s.
- Seniors have trouble focusing their vision and distinguishing different colors.
- If you have to use a tool to open a pack, it is a bad pack.
Packaging safety is a huge issue: Accessibility

• A poll of 2000 Yours magazine readers found 99% thought packaging had got harder to open in the past ten years
• 71% of readers of Yours magazine (aimed at the over 50s) said they had been injured as they struggled to open packaging at some time in their life
• Most common packaging injuries are cut fingers, cut hands, sprained wrists, bruised hands, strained shoulders
• Six out of ten had bought a gadget to help open packaging
• Hard to open packaging isn't just a dangerous nuisance, it discriminates against the weak
Packaging safety is a huge issue: Accessibility

• Increase print size to 14-point type with good contrast.
• Square packaging instead of round so things don't tend to roll.
• Include instructions on how to open the package.
• Adjust package size to contents.
• Use some method to differentiate pharmaceutical bottles -- they all look the same.
• Products should include the price.
• Use a pull-tab for boxes such as rice and pancake mix to make them easier to open.
• Always include an 800-number for consumer information.
• Put important information in red type and large print so it can be found quickly.
• Flip-top caps are preferred to twist tops because the product and cap stay together.

Source: primelife advisory network
Packaging safety is a huge issue

<table>
<thead>
<tr>
<th>Percentage of people who reported occasional or regular problems with packaging</th>
<th>Tinned Goods</th>
<th>Tinned Goods with Ring Pull</th>
<th>Cans</th>
<th>Plastic Bottles/Jars</th>
<th>Glass Bottles/Jars</th>
<th>Cartons/boxes</th>
<th>Flexible packaging</th>
<th>Trays Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Strong Enough to open</td>
<td>19</td>
<td>36</td>
<td>12</td>
<td>36</td>
<td>55</td>
<td>21</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Not obvious how to open it</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>24</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>Cannot see where or how to open it</td>
<td>8</td>
<td>24</td>
<td>12</td>
<td>13</td>
<td>11</td>
<td>33</td>
<td>36</td>
<td>26</td>
</tr>
<tr>
<td>Too fiddly to open easily</td>
<td>20</td>
<td>24</td>
<td>12</td>
<td>13</td>
<td>11</td>
<td>39</td>
<td>46</td>
<td>26</td>
</tr>
<tr>
<td>Worried about hurting one self</td>
<td>43</td>
<td>30</td>
<td>16</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Worried about spilling or wasting product</td>
<td>17</td>
<td>22</td>
<td>15</td>
<td>24</td>
<td>21</td>
<td>38</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>Always open it wrongly</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>42</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Confusing Instructions</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Tamper mechanism makes opening difficult</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>31</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Sourcedirect.com
Packaging safety is a huge issue

Accidents in the home involving packaging

<table>
<thead>
<tr>
<th>Year</th>
<th>Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>320,562</td>
</tr>
<tr>
<td>2001</td>
<td>315,534</td>
</tr>
<tr>
<td>2002</td>
<td>328,738</td>
</tr>
</tbody>
</table>

Source: ROSPA Accident Database
Packaging safety is a huge issue

Food contact
- Chemicals
- Taint and odour
- Foreign bodies

Injuries
- Cuts and lacerations
- Burns and scolds
- Allergens

Child safety
- EN71
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- Flammability
- Heavy metals

NUTRITION FACTS:
Serv. Size 10g or about 20 tablets
No. Serv. per lg about 100

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>Calories: 42</th>
<th>Amount/Serv.</th>
<th>%DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>0mg</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Total Carb.</td>
<td>10g</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Fiber</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td>10g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
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</table>

Vitamin A %, Vitamin B, %, Vitamin C, %, Calcium, %, Iron, %, 
Sodium, % 

Nutritional values RYE 1500 calorie diet.
Packaging safety is a huge issue
Chemistry: some chemicals of concern

<table>
<thead>
<tr>
<th>Metals and lacquers</th>
<th>Inks and varnish</th>
<th>Plastics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium</td>
<td>Benzophenones</td>
<td>Formaldehyde</td>
</tr>
<tr>
<td>Tin</td>
<td>Heavy metals</td>
<td>Melamine</td>
</tr>
<tr>
<td>Heavy metals</td>
<td>ITX</td>
<td>PAAs</td>
</tr>
<tr>
<td>BFDGE</td>
<td></td>
<td>ESBO</td>
</tr>
<tr>
<td>Bisphenol-A</td>
<td></td>
<td>1-Methyl-2-Propanol</td>
</tr>
<tr>
<td>NOGE</td>
<td></td>
<td>Phallates</td>
</tr>
<tr>
<td>BADGE</td>
<td></td>
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Packaging safety is a huge issue: Legislation

- 2013/2006/EC Good Manufacturing practice (applicable to all Food Contact Materials)

- 2007/42/EC Regenerated Cellulose Film
- 84/500/EEC Ceramics
- 2005/31/EC 1st amendment

- Plastic Materials
  - 2002/72/EC Monomers Additives
    - 2004/1/EC 1st amendment
    - 2004/19/EC 2nd amendment
    - 2005/79/EC 3rd amendment
    - 2007/9/EC 4th amendment
    - 2008/9/EC 5th amendment
    - (EC) No 975/2009 6th amendment
  - 78/142/EEC Vinyl Chloride
    - 2004/1/EC 1st amendment
  - 2004/19/EC VC in PVC analysis
    - 81/432/EEC VC in food analysis
  - 372/2007/EC Transitional migration limits for placiters in gaskets in labs
  - (EC) No 282/2008 Recycled Plastics
    - 82/111/EEC Migration Testing
      - 93/68/EEC 1st amendment
      - 97/48/EC 2nd amendment
    - 98/8/EC List of simulants
  - (EC) No 450/2009 Active and intelligent materials

- Elastomers and Rubbbers
- Paper and Board
- Glass
- Wood
- Cork
- Metals and alloys
- Textiles
- Adhesives
- Ion-exchange resins
- Printing inks
- Silicones
- Varishes and coatings
- Waxes
Packaging is important

- Packaging has to perform many functions
- Safety of our consumers is of critical importance to us
- As a minimum we will comply with all legislation
- We are keen to engage with the packaging supply chain and other organisations to understand more and be ahead
Contact: paul.earnshaw@uk.tesco.com