Safe use of Liquid Laundry Detergent Capsules in Europe

Implementation of Regulation (EU) 1297/2014 and voluntary industry initiatives

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Sylvie Lemoine
1. Context

2. A.I.S.E. Product Stewardship Programmes (PSP)

3. CLP measures (Regulation (EU) No 1297/2014): A.I.S.E. implementation guidelines

4. Other developments
   - Accidentology findings
   - US developments

5. Looking ahead
Liquid Laundry Detergent Capsules

Product attributes
• >10 years on the market, but new in several countries
• Convenient for consumers (easy and correct dosing)
• Sustainability benefits: optimal use of resources & packaging
• Increasing demand for these products

Whilst liquid laundry detergent capsules are safe when used and stored as instructed, it is important to:
• store them in a safe place before and after use
• and always keep them out of reach of children
Issue: incidents

Accidental ingestion, mainly by young children:
- Occasionally when introduced in 2001, but incident frequency found higher as market grew (e.g. IT 5x more)
- Authorities alarmed in summer 2012 by media and PCCs

Skin or eye exposure when liquid laundry detergent capsules are pierced or squeezed with force

- Voluntary: A.I.S.E. Product Stewardship Programme (end 2012)
- Regulatory requirements under CLP as of June 2015
- Voluntary: second A.I.S.E. Product Stewardship Programme (March 2015)
A.I.S.E. Product Stewardship Programme launched end 2012

- **Scope**: all liquid laundry detergent and laundry additive capsules (European market)
- **Combination of measures focused on safe use and storage**
- **Commitments on 3 pillars (close to 100% compliance)**
  - Packaging improvements (limiting visibility and access)
  - Consumer information (on-pack, consumer education campaigns)
  - Engagement with PCCs (composition sharing, incident monitoring and accidentology about circumstances of incidents)
- **All major companies committed to the PSP since 2013**
  - 6 multinationals covering most of the market
A.I.S.E. Product Stewardship Programme launched March 2015

- **Scope**: all liquid-containing detergent capsules ("LDC"), European market, "beyond CLP"
  - liquid detergent capsules (not only laundry)
  - non-hazardous liquid laundry detergent capsules

- **2012 PSP safe use and storage measures expanded to other products + building on CLP measures**

- **Commitments on 4 pillars**
  - Packaging improvements (limiting visibility and access)
  - Prevent Liquid Detergent Capsules from bursting when gripped by children (resistance to 300N compression)
  - Consumer information (on-pack, consumer education campaigns)
  - Pursue PCC engagement (accidentology)

- **Phased implementation over 2015-2016**
Poison Control Centre Data: overall reduction of incidents (Nov 2015 update)

- Monthly data from 5 countries
- Nb of incidents normalised for market size (per million caps)
- Comparison on annual basis (avoid seasonality)

UK - 25%
IE - 19%
NL - 24%
CZ - 54%
IT - 44%

On average 33% reduction
# Commission Regulation (EU) No 1297/2014 Overview

<table>
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<tr>
<th>Type of measure</th>
<th>Requirement</th>
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| **Outer packaging**      | • Impede capsule visibility: opaque or obscure  
                           • Self-standing, easily reclosable container  
                           • Impedes opening by children (coordinated action of both hands with a strength) |
| **Labelling**            | • P statement P102 visible, attention-grabbing format                                                                                     |
| **Aversive agent**       | • Safe aversive agent, elicit oral repulsion in max 6 s.                                                                                   |
| (soluble packaging)      |                                                                                                                                              |
| **Pouch integrity**      | • In water (20°C), retains detergent liquid for ≥ 30 s.   
                           • Mechanical resistance to compression strength of at least 300N                                                                          |
| (soluble packaging)      |                                                                                                                                              |

Transition period: until 31 December 2015 for products placed on the market before 1 June 2015
Outer Packaging – visibility of content

opaque or obscure

de facto equivalent to existing PSP
Outer Packaging – Child Impeding

Design criteria (CLP)
• coordination of two hands + strength

“Performance” criteria (CLP)
• easy to reclose
• entire life span

No existing performance standard for ‘child-impedingness’
• ISO 8317 CRC not required (if not needed because of classification)
• Further work by A.I.S.E. under consideration

Critical to get packaging re-design right the first time
• 2 years of R&D + manufacturing capability work for new packaging to reach shelves!
Outer Packaging – Labelling

P102 visible + attracting attention

- P102 in CLP label to be emphasised (e.g. **contrasting**, **bold**, **CAPS**)

- Repeat message on top or front of outer packaging, e.g. **Safe use patch**
Capsule Film – Aversive Agent

Oral rejection in ≤ 6 seconds

Test protocol developed and evaluated
Proof of concept: PVA + denatonium benzoate
• 220 ppm and higher: median rejection = 2.7 s
• statistics: <6 seconds with >95% confidence
Capsule Film Integrity

Retain content 30 seconds when placed in water at 20°C
Resist compression of 300N

Containment: submersion test protocol
Compression: dynamamometric test protocol

Standard conditions (incl sample conditioning)
Capsule Film Integrity

Recommended criteria
(for design and for enforcement):

85% success with 90% confidence level

Experimental design: 2 valid options

• ‘attribute’ pass/fail testing
  (statistically determined how many failures are allowed for a given number of samples tested: at design stage only)
• destructive testing
  (determine distribution of actual containment time and compression strength)
‘Accidentology’
work with Poison Control Centers

- PCCs + A.I.S.E.
- 6 months (4Q14- 1Q15) ; 5 countries (IRL, NL, DE, CZ, IT)
- Detailed follow-up on circumstances
- 401 cases (Laundry 82% + ADW 16%)

Project continues, managed by EU Commission (‘LiquiCaps’)

Final report published on 2 November 2015
‘Accidentology’ – key findings

- **Children < 3 (12-24 months):**
  Ingestion in 92% (oral stage) + some eye exposures (squeezing)

- **66% of incidents with capsules or packs directly accessible to children**
  - Capsule not in pack
  - Pack not safely stored

- **26% of cases: child opened the original packaging**

- **Not found to be determining factors**
  - Type of packaging (plastic pouch vs box)
  - Different colours

- **Laundry more often symptomatic, higher severity than ADW**
  (but none of the 401 cases had severe symptoms)
Access to the capsule

(where relevant information is known)

- Two-thirds taken from container
- One-third already outside of container
Access to the capsule
(where relevant information is known)

Storage

- Two-thirds taken from container
- One-third already outside of container

- Child-safe
- Not Child-safe
- Not Child-safe
PCC recommendations

- Improve child-impeding properties of packaging
- Sustain consumer education
- Further investigate child-attractiveness factors
Digital Education Campaign: Portal

www.keepcapsfromkids.eu

Multi-lingual consumer WEBSITE

&

« Cute Explorers » VIDEO

Twitter @KCFK_Campaign
Mandatory Safe Use measures on brand communication channels

Examples of implementation in print, online (brand website) & on TV (mandatory disclaimer)
US developments

http://www.astm.org/Standards/F3159.htm

• Reference to EU CLP measures incl. aversive agent + capsule integrity
• Packaging (opaque or equivalent), child-difficult closures (6 options)
• Special labelling/warning, prominent.

Tracking of quantitative reporting of accidental exposures with national PCC data

Dialogue on innovations that might reduce accidental exposures
Conclusions

• Safe use of laundry detergent capsules is addressed by a mix of voluntary and regulatory measures

• A.I.S.E. has published guidelines to support sector-harmonised implementation of Regulation (EU) No 1297/2014

• More work is under way
  • New A.I.S.E. PSP progress report (by end November)
  • ‘LiquidCaps’ Commission study
  • A.I.S.E. will look into closures
  • US developments

• In addition to technical measures, consumer education is key to secure the safe use of this (relatively new) type of product

• The detergent industry is committed to promoting safe use with various measures