

DANGEROUS PLAYTIMES: MICROBIOLOGICAL HAZARD POSED BY SOAP BUBBLES AND OTHER AQUEOUS MEDIUM CONTAINING TOYS.

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Background

Child toy safety usually focuses on chemical, physical and electrical hazards.

Microbiological risk is mostly neglected and only a few studies addressed this concern.

Toys containing **aqueous media** are especially at risk of microbial contamination, straight from their manufacturing, since polluted water was reportedly used in the process.

Hereby we present a brief insight on the **last 10-years alerts in Europe** and suggests a core protocol for the assessment of toys microbial safety.

Methods

Reviewed regulations:

- European Toy Safety Directive 2009/48/EC;
- Relevant Standard EN 71-3;
- International standard ISO 8124 - Safety of Toys.

The European Rapid Alert System (**RAPEX**) was searched for “microbiological risk” alerts in the “toys” product category, over the years 2009-2019.



Results

The query provided **124 alerts**, all for toys containing aqueous media.

Soap bubbles accounted for 77% of them and were almost the unique toy category recorded for microbiological risk until 2013.

Retrospectively, soap bubble alerts surged (25 notifications) during 2013.

In 2012 literature reported how three kids got hospitalized after playing with a soap bubble toy contaminated with *Pseudomonas sp.*

Other toy categories were: finger paints, squeezable toys, fun-modelling clay.

Conclusions

Although evidence supports microbiological risk in this kind of toys, only vague legislation requirements have been implemented.

In our opinion toys should be compulsory tested before obtaining the well-known CE mark, especially if they are intended to be used in **pediatric hospitals** (e.g. clown therapy, distraction from pain).

Core quality **indicator parameters** could be: Total Mesophilic Viable Count <100 CFU/mL and absence of *Pseudomonas aeruginosa*.

