



MEETING LOG

SUBJECT: ASTM F15.22 Emerging Hazards Task Group Meeting Concerning Water Beads

FY 23 OP PLAN ENTRY: Toys

DATE OF MEETING: 1/22/2024

LOCATION OF MEETING: Virtual

CPSC STAFF FILING MEETING LOG: Benjamin Mordecai (bmordecai@cpsc.gov, 301-987-2506)

FILING DATE: 2/7/24

CPSC ATTENDEE(S): Benjamin Mordecai (LSM), Jill Hurley (ESHF), Matthew Kresse (LSM), Daniel Taxier (EXHR), Jacqueline Campbell (EXHR), Charlotte Alton (GCRA), Matthew Cho (HSTR), Eric Hooker (HS), Ashley Johnson (HSPP)

NON-CPSC ATTENDEE(S): Contact Molly Lynyak of ASTM for a complete list of attendees.

Summary of Meeting:

The task group met to discuss CPSC's most recent letter to the ASTM subcommittee, dated November 28, 2023.

CPSC staff briefly covered three incidents involving water bead ingestion where varying levels of medical intervention were required. The first incident involved a one-year-old who successfully passed an approximately 25 mm water bead with the aid of an enema. The same child also ingested a second water bead measuring 32 mm in diameter that had to be surgically removed. The second incident involved a three-year-old child who ingested approximately 1200 water beads. The victim passed all of the water beads through their system with the aid of an enema. The third incident involved a 13-month-old who ingested a water bead that was at least 13.2 mm in diameter, which required surgical removal. In both the second and third incidents, the product was identified, and separate samples were purchased by CPSC for evaluation. The water bead sizes involved in the second incident ranged from 9.3 mm to 15.2 mm while the water bead sizes for the third incident were at least 13.2 mm in diameter.

CPSC staff continued discussing the toxicology study. Information on toxicity and metabolism of acrylamide was presented by a member of the working group. That individual commented that acrylamide rapidly metabolizes and excretes from exposed subjects. They also stated that the presence of confounding factors (e.g., smoking) should be evaluated when levels of acrylamide are examined from water bead products.

CPSC staff questioned whether the push force applied during testing is representative of the human GI tract action and proposed revision to the test gauge. The history behind the test requirement was discussed and it was suggested that this section of the standard may require specific test procedures for water beads as opposed to all expanding materials.



A toxicologist consultant attending the meeting presented an expert opinion paper on “The Safety of Polyacrylate Copolymer (SAP).” Work group members further discussed the differences between poly acrylamide, co-poly acrylamide, and the other chemicals used in fabrication. Some members questioned the validity of the current research, which has only studied adults and not children, and discussed the lack of information on how the chemicals breakdown as they travel through a child’s intestinal tract.

One work group member discussed an incident where a child ingested a water bead which thereafter formed a gelatinous mass. CPSC staff commented that it is not aware of this incident and requested information on the incident. Such work group member offered to share the incident/medical article with the group.

Another member of the work group presented test results from a 3rd party test lab on several water beads from one manufacturer. The discussion reviewed chemical and mechanical degradation of these specific set of expanded water beads.

A pediatric doctor in the group offered to provide medical data to support discussions for revising the test fixture.

The meeting was adjourned with plans to discuss the information presented at this meeting further.

Next Steps:

ASTM will schedule meetings for water beads in the next month or two.