

Study finds that recalled Aqua Dots did contain poisonous chemical

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Reports of children becoming unconscious after swallowing Aqua Dots beads led to a voluntary recall of the product in November 2007. At the time, it was widely reported that the potentially toxic chemical 1,4-butanediol (BD) had been used in place of the benign but more expensive 1,5-pentanediol (PD) in the manufacture of the beads.

A new study, led by Dr. Jeffrey Suchard of the University of California, Irvine confirms these reports, finding that Aqua Dots contained no 1,5-PD at all, but had a surprisingly high level – almost 14 percent - of extractable 1,4-BD.

According to the study, consumption of several dozen Aqua Dots beads containing these levels of 1,4-BD, which is metabolized after ingestion to gamma hydroxybutyrate (GHB), a central nervous system depressant commonly known as a “date-rape drug,” would be enough to induce the reported vomiting and self-limited comas experienced by children that ingested the toys.

The beads did not contain any 1,5-pentanediol. That non-toxic chemical had been completely replaced with the potentially toxic 1,4-butanediol.

Aqua Dots is a children’s toy craft kit that sold millions of units in the United States and around the world. This toy was composed of small colored plastic beads that could be arranged into various shapes which would permanently stick together when misted with water and then allowed to dry. Several children in the United States, Australia and the

United Kingdom became ill and were hospitalized after swallowing these beads.

The toy kits have since been recalled, however it is notable that poisoning events from consumer products and medications containing toxic diols and glycols have been reported for many decades and continue to occur at fairly regular intervals.

“These chemicals appear to have a knack for being inadvertently introduced into such products, despite their known toxicities,” says Suchard.

The presentation is entitled “1,4-Butanediol Content of Aqua Dots Craft Toy Beads.” This paper will be presented at the 2008 SAEM Annual Meeting in Washington, D.C. on Friday, May 30th.

Source: Wiley

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