CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
J0509

Project Title
Time in a Bottle: Will Water in a Plastic Bottle Become Unsafe to Drink over Time?

Abstract

Objectives/Goals
The goal of my project is to test the safety of bottled water when exposed to extreme temperature over time. My objectives are:
1. To examine the media reports concerning the harmful effects of phthalates
2. To evaluate the public's drinking and water storage habits.

Methods/Materials
Method 525.2 providing procedures for determining organic compounds in drinking water was used. Materials used included water samples, chemicals, safety equipment, glass vials, high performance extraction disks, equipment apparatus and miscellaneous items essential for the process.

Results
At the Reportable Detection Limit, no phthalates were detected in any of the five samples of bottled water.

Conclusions/Discussion
My study showed that bottled water when exposed to extreme temperatures is generally free from phthalates and therefore, is safe to drink for up to a period of at least fifteen weeks. Phthalates have frequently been the subject of misinformation and misleading media reports. That is why science is such a powerful tool. It gives us a chance to objectively test ideas and information we hear in the news against the evidence we observe. It allows us to base our decisions about what is safe to eat or drink on facts instead of media hype and mass hysteria. My experiment had some limitations including small sample size that affected the design of my experiment, limiting exposure times, length of study and one brand of bottled water.

Summary Statement
My project is about determining the safety of water in a plastic bottle under extreme temperature over time.

Help Received
Babcock Lab and staff for donating sample runs and supervising me while conducting experimental procedures, family friend for helping with electronic display, family members for encouragement and support throughout the project.