CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
Kyra E. Pretre

Project Number
35011

Project Title
Harmless or Deadly? Is There Benzene in the Air?

Abstract

Objectives/Goals
The goals of this experiment were testing levels of deadly benzene in commonly used products and raising awareness about products that could be affecting people's health.

Methods/Materials
The products that were tested were oil-based paint, latex paint, beeswax candles, scented candles, liquid wrench penetrating oil, fuel injector cleaner, and Weed B Gon weed killer. A Uniphos Air Sampling Pump and three 12-sets of Uniphos Benzene Gas Detector Tubes were used to sample 200mL of fumes from above the products.

Results
The fuel injector cleaner has the most benzene, an average of 67 parts per million (ppm). The oil-based paint has almost as much, with an average of 50ppm. The liquid wrench was third with an average of 14 ppm. All the other products and the control test, regular air, had 0ppm of benzene. The hypothesis, that the liquid wrench would have the most benzene, was incorrect.

Conclusions/Discussion
People should be aware of amounts of benzene in home products and minimize their usage of these products as much as possible. Perhaps benzene detection methods for home use can be developed in the future and the amount of benzene properly disclosed on the labels of products containing it.

Summary Statement
I tested the amount of benzene in commonly used products to alert people of unknown dangers.

Help Received
Ion Science was very helpful by lending the testing pump and selling the testing tubes that were usually used for businesses. My mom purchased all the materials I needed for my experiment.